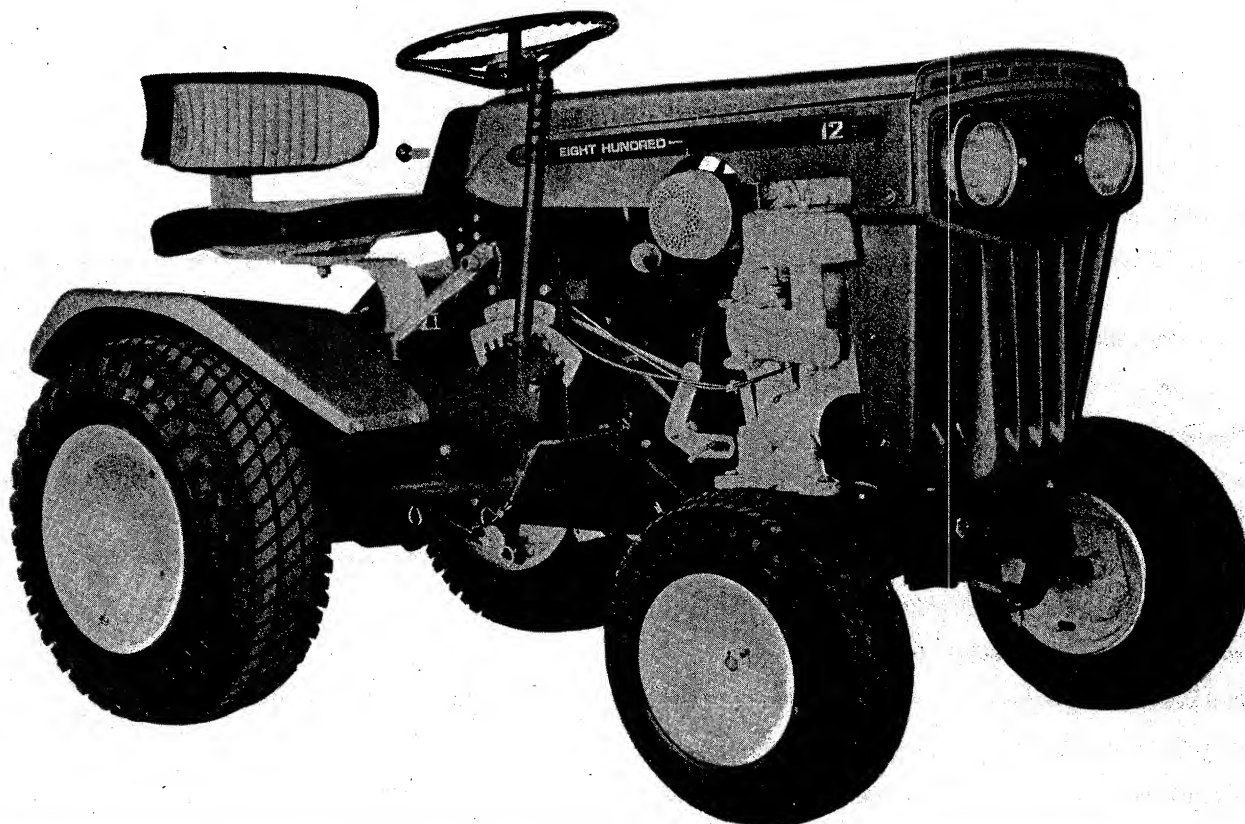


# Your New

MODEL NO. 148-760 10 H.P. 10 HUNDRED SERIES  
148-860 12 H.P.

## GARDEN TRACTOR

761 DECK



### WARRANTY

For one year from date of purchase, MTD Products Inc. will replace for the original purchaser, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. All transportation charges on parts submitted for replacement under this warranty must be paid by the purchaser. This warranty does not include replacement of parts which become inoperative through misuse, excessive use, accident, neglect, improper maintenance or alterations by unauthorized persons. This warranty does not include the engine, motor, battery, battery charger or any component parts thereof. For service on these units refer to the applicable manufacturer's warranty.

The above warranty will apply only to the original owner and will be effective only if the warranty card has been properly processed. It will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. UNDER NO CIRCUMSTANCES WILL THE RETURN OF A COMPLETE UNIT BE ACCEPTED BY THE FACTORY UNLESS PRIOR WRITTEN PERMISSION HAS BEEN EXTENDED.

## **SAFETY TIPS FOR GARDEN TRACTORS AND ATTACHMENTS**

Improper use of riding lawn mowers, garden tractors and attachments on the part of the operator can result in injury. To reduce this possibility, give complete and undivided attention to the job at hand.

1. Know the controls and how to stop quickly — **READ THE OWNER'S MANUAL.**
2. Do not allow children to operate machine; nor adults to operate it without proper instruction.
3. Clear work area of objects which might be picked up and thrown.
4. Disengage all clutches and shift into neutral before starting motor. Keep hands, feet and clothing away from power driven parts.
5. Do not carry passengers. Keep children and pets a safe distance away.
6. Never direct discharge of any material toward by-standers nor allow anyone near machine while in operation.
7. Disengage power to any attachment and stop motor before leaving operator position.
8. Take precautions when leaving machine unattended (to avoid accidental starting, rolling away, accidental dropping of any attachment, etc.)
9. Disengage power to any attachment whenever it is not in use or when traveling from one work area to another.
10. Stay alert for holes and other hidden hazards.
11. Know what is behind you before backing up.
12. Beware of steep slopes; reduce speed on all side slopes and sharp turns to prevent tipping or losing control.
13. Don't stop or start suddenly when going uphill or downhill.
14. Use extra care when pulling loads or using heavy equipment. (Refer to your owner's manual)
15. Watch out for traffic when near roadways.
16. Handle gasoline with care — it is highly flammable.
  - A. Use approved gasoline container.
  - B. Never add gasoline to running motor — fill tank out of doors and wipe up spilled gasoline.
  - C. Replace gasoline cap securely.
  - D. Open doors if motor is run in garage — exhaust gases are dangerous.
17. Keep machine in good operating condition and keep safety devices in place. Use guards as instructed in owner's manual.
18. Disengage power to any attachment and stop motor before making repairs or adjustments.

# KNOW YOUR TRACTOR

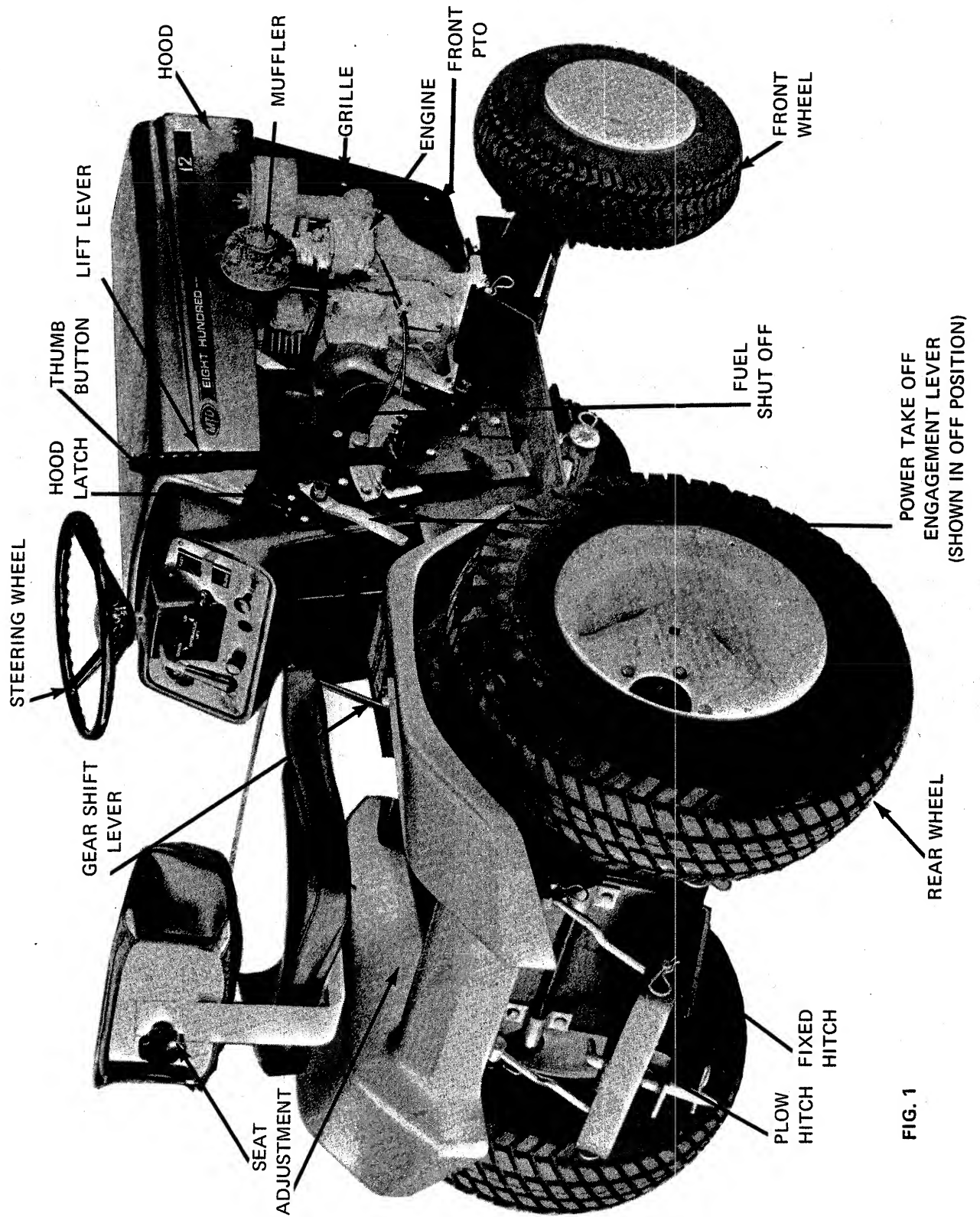


FIG. 1

# ASSEMBLY INSTRUCTIONS

1. Place battery to be filled on bench or workbench. Never activate battery in tractor. Remove vent plugs from all cells.
2. Fill each cell carefully using battery grade 1.250-1.265 specific gravity Sulfuric Acid to 3/8" above the top of the separators or to the split ring.
3. Allow battery to set for 20 minutes. Battery can then be installed, however, to have maximum capacity the battery should be placed on a charger after the 20 minutes setting period. Battery can be charged at maximum of 35 amperes until the specific gravity reading is 1.265-1.275.
4. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225 remove battery and recharge.
5. The battery should be kept clean. Any deposits of acid should be neutralized with soda and water. Be careful not to get this solution in the cells. Coat the terminals with a thin coat of grease.
6. If the battery is not going to be used in the winter, remove the battery and store in a cool, dry place. Do not store directly on a concrete floor as this will drain the battery. Recharge whenever the specific gravity is less than 1.225.

## WARNING

SINCE BATTERY ACID IS CORROSIVE TO METALS, DO NOT POUR INTO ANY SINK OR DRAIN. RINSE EMPTY ELECTROLYTE CONTAINERS AND MUTILATE BEFORE DISCARDING. IF ACID IS ACCIDENTALLY SPILLED ON BATTERY DURING FILLING OR CHARGING, OR ON BENCH OR CLOTHING, ETC., FLUSH OFF WITH CLEAR WATER AND NEUTRALIZE WITH SODA OR AMMONIA SOLUTION.

## INSTALLING THE BATTERY

Place the battery in the tractor with the negative terminal towards the front of the tractor. Before sliding the battery all the way in, attach the positive battery cable (red) to the positive terminal and attach the negative battery cable (black) to the negative terminal. Slide the battery into the proper position and use the hold down rods and cross rod with the washers and wing nuts to hold the battery in place. Screw wing nuts finger tight. Overtightening can crack the battery case. (see Fig. 2)

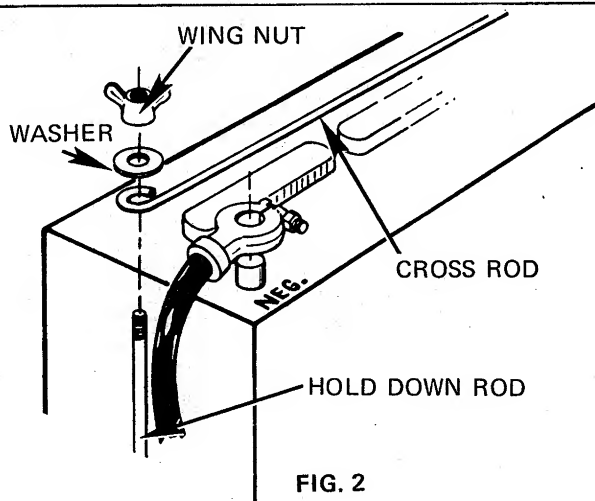


FIG. 2

## BEFORE STARTING

### FILL FUEL TANK

Use clean, fresh "regular" grade gasoline. Fill tank completely.

DO NOT FILL GASOLINE TANK WHILE ENGINE IS RUNNING. Avoid spilling gasoline on a hot engine — this may cause an explosion and serious injury.

DO NOT MIX OIL WITH GASOLINE

### OIL RECOMMENDATIONS

WINTER (Below 40° F.)	SUMMER (Above 40° F.)
Use SAE 5W-20	Use SAE 30

Any high quality detergent oil having the American Petroleum Institute classification "For Service MS" can be used in your Briggs & Stratton engine. Detergent oils keep the engine cleaner and retard the formation of gum and varnish deposits.

The above oil recommendations are the result of extensive testing. No special additives should be used.

### FILL CRANKCASE WITH OIL

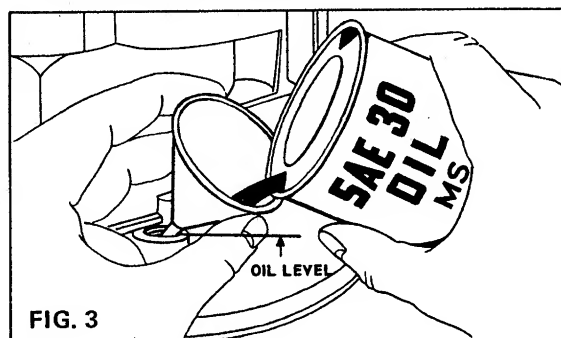


FIG. 3

Remove the oil filler plug. Place the engine level. Fill the crankcase to overflowing. POUR SLOWLY. CAPACITY 4 PINTS. Replace the filler plug.

# GENERAL INFORMATION

## ENGINE AND DRIVE TRAIN

Engine — 10 or 12 HP Synchro-Balanced Briggs & Stratton cast iron block with 12 volt electric starter.

Transaxle — Peerless with four forward speeds and reverse. Creeper gear — 3/4 MPH at full throttle. Fourth gear 6-1/2 MPH at full throttle. All speeds variable with throttle.

Clutch — Five and one half inch double faced disc clutch.

## ORIENTATION

Your tractor is right hand (R.H.) or left hand (L.H.) as you operate it. Direction of rotation is clockwise (C W) and counterclockwise (C C W) as observed from the operator's position, looking down. (Turning the steering wheel C W would turn the tractor to the right) C W and C C W on the vertical plane would be observed facing the R H side of the tractor.

## CLUTCH-BRAKE PEDAL

This pedal is operated with your left foot. Depress half way down to declutch, depress all the way down to declutch and brake, coming to a complete stop. Always depress the pedal when shifting gears. Release pedal slowly to engage clutch.

## PARKING BRAKE

The brake is located on the low L H side of the tractor. To operate, depress the clutch-brake pedal completely and lock it by turning the parking brake knob C W until it tightens. To release the brake, turn the knob C C W one complete revolution. (see Fig. 5)

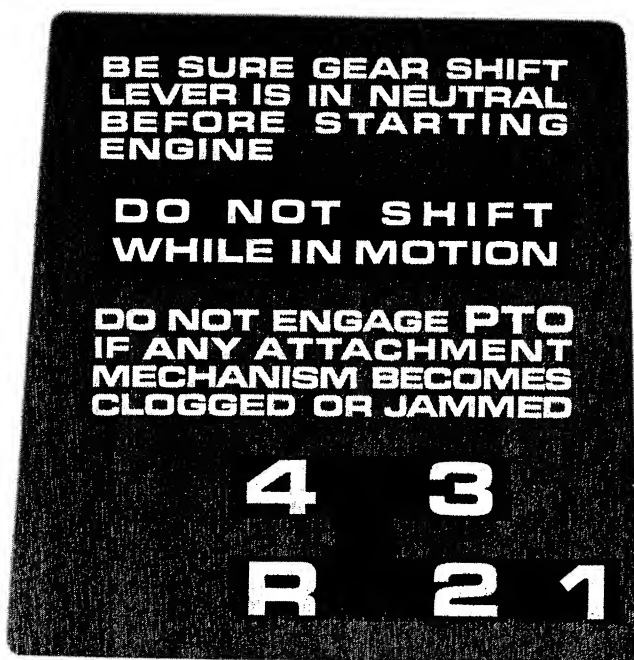


FIG. 4

## GEAR SHIFT LEVER

The selection of the correct gear and throttle setting will be determined by the attachment being used. Generally, anything that uses the tractor engine as a power source should be run at full throttle with the ground speed determined by the gear selection.

A lock is provided to prevent accidentally engaging the creeper (1st gear) gear. (see Fig. 4)

## DASH PANEL CONTROLS

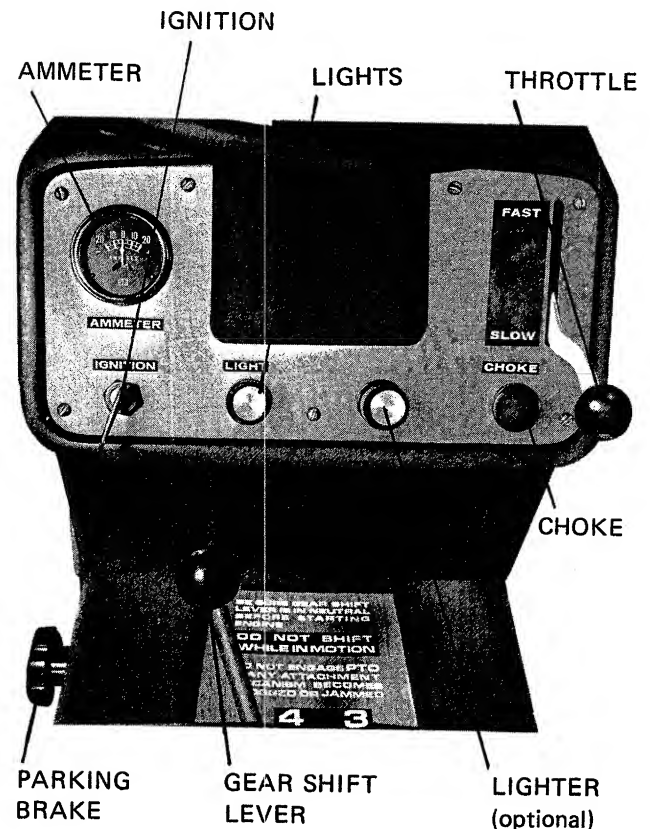


FIG. 5

## LIFT LEVER

The lift lever is used to change the height of the attachments such as the cutting deck, tiller and plow. To operate, depress the thumb button, move to the desired height and release the button.

The plow hitch operates off the lift lever and does not have to be disconnected when attaching the cutting deck or snow blade. (see Fig. 1)

## POWER TAKE OFF (P T O)

There are two PTOs on your tractor. One is located under the frame of the tractor and is to be used for the cutting attachment and rotary tiller. This PTO has a disengagement lever located on the RH side of the tractor. It is shown in the picture in the DIS-engaged position. It should be in this position whenever it is not in use. (see Fig. 1)

The second PTO is used to operate equipment attached to the front of the tractor such as the snow thrower. (see Fig. 1)

## THROTTLE CONTROL

Used to regulate engine speed. Move throttle control up to increase engine speed and down to slow down engine. (see Fig. 5)

## CHOKE

To start engine, pull all the way out. After engine starts, move choke in half way. After engine warms up, move choke in gradually until it is completely in. (see Fig. 5)

## WHEEL ADJUSTMENT

Each rear wheel can be adjusted out 2" on the axle. Details covered in the adjustment section of this manual. (see Fig. 10)

## WHEELS

Front ..... 16 x 6.50 - 18" High Floation  
Rear ..... 23 x 8.50 - 12" High Floation  
Valve stems are to the inside to accommodate wheel weights for the rear wheels. 100 pound (total weight) wheel weights are available.

*oper pressure 12-15*

*fill weights max 22 lbs*

## HOOD

Hood pivoted at the front for easy access to engine and clutch. To open, release latches on each side of the hood. (see Fig. 1)

## STEERING ASSEMBLY

Segment and pinion with 2:1 ratio for easy steering. Automotive type adjustable tie rods for toe-in adjustment. Cast iron pivoted front end.

## LIGHTS (12 HP model only)

Pull switch button out to turn on head lights. (see Fig. 5)

## IGNITION SWITCH

Turn key to the right (C W) to engage starting motor on engine. Remove key from switch when tractor is not in use. (see Fig. 5)

## AMMETER

The ammeter registers the rate of battery charge or discharge. The ammeter should register on the plus (+) side when the engine is running in the "Fast" position until the battery is completely charged. With a fully charged battery or with the engine idling the ammeter will not show a charge. (see Fig. 5)

## SEAT

Fully padded for comfort. Back adjustable by loosening hand knob. Seat adjusts back and forward by loosening the large hex nut under the seat and sliding the seat back or forth.

# OPERATING INSTRUCTIONS

## STARTING YOUR ENGINE

To get the feel of your tractor, operate it in a large open space until you become familiar with the controls.

1. Be sure you have read the manual to acquaint yourself with the controls.
2. Fill engine with oil and gasoline as outlined on page 3 of this manual.
3. Open fuel shut-off valve located under the gasoline tank.
4. Place gear shift lever in neutral position.
5. Depress clutch-brake pedal and lock into disengaged position with the parking brake.
6. Pull choke out all the way.
7. Place throttle lever in 1/2 throttle position.
8. Turn ignition key (C W) to engage starter. When engine starts, move choke in half way. After engine warms up, move choke in gradually until completely in.

## CAUTION

Do NOT run starter for more than 30 seconds at a time. If engine does not start after several tries, place throttle control in "fast" position, wait several minutes and try again without moving the throttle lever from the "fast" position.

## STOPPING YOUR ENGINE

Turn ignition key to the left (C C W). Remove key from ignition when tractor is not in use to prevent accidental starting.

Remove spark plug wire from spark plug when tractor is not in use to prevent accidental starting.



## TO OPERATE THE TRACTOR

1. Move throttle control to 1/2 throttle position.
2. Place left foot on clutch-brake pedal and hold down while you release the parking brake.
3. Place the gear shift lever in second gear. (Use a low gear until you get the feel of your tractor.)
4. Slowly let out the clutch-brake pedal until it is completely released.

### NOTE

When operating attachments such as the cutting unit or tiller that uses the tractor engine as source of power, run the engine at near full or full throttle. Set your ground speed by changing transmission gears.

### CAUTION

Do not force the gear shift lever if the gears do not immediately mesh. Release the clutch-brake pedal and depress again until it shifts easily.

Do not shift while in motion.

Always release the clutch-brake pedal slowly.

## STOPPING YOUR TRACTOR

Disengage the transmission by depressing the clutch-brake pedal and shifting into neutral.

If you park the tractor, set the parking brake and leave the transmission in gear. Before starting the engine again, place gear shift lever in neutral.

## POWER TAKE OFF (PTO)

The PTO should be in the "OFF" position (Handle Down) when starting the engine and when attachments using the PTO are not on the tractor. If, while using the cutting unit or the rotary tiller, they become clogged and will not operate, shut off the engine AND THE PTO before clearing the attachment.

The PTO engagement lever should be engaged fast to prevent wear on the PTO belts.

The cutting unit and the rotary tiller can be raised or lowered while they are operating under full power. For example, the rotary tiller can be lifted from the ground with the left lever in order to turn the tractor around without shutting off the PTO.

# MAINTENANCE

## BELTS

PTO BELT REMOVAL — To remove the belt: (see Fig. 6)

1. Set the engagement lever in the ENGAGED position.
2. Remove the spring.
3. Remove the belt guard on the PTO by removing 2 bolts + lock-washers.
4. Remove the 3 bolts holding the yoke to the clutch.
5. Depress the clutch-brake pedal and set the parking brake.
6. Push the entire clutch back as far as it will go by hand and remove the belt between the yoke and clutch.
7. ALWAYS replace both belts at the same time.

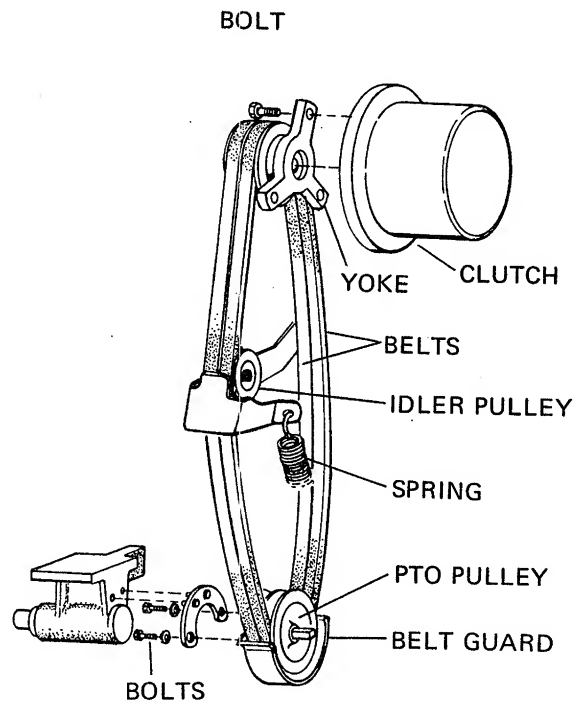


FIG. 6

## TRANSMISSION BELT:

**Adjustment** — The tension of the belt is increased by **UNSCREWING** the leveler screw until you obtain a 1/2" deflection on the belt when you apply 10 pounds of force midway between the transmission pulley and the pulley. Lock leveler in place by tightening the lock nut.

**Removal** — Screw the leveler screw all the way in until the idler is loose and remove the belt. (see Fig. 8)

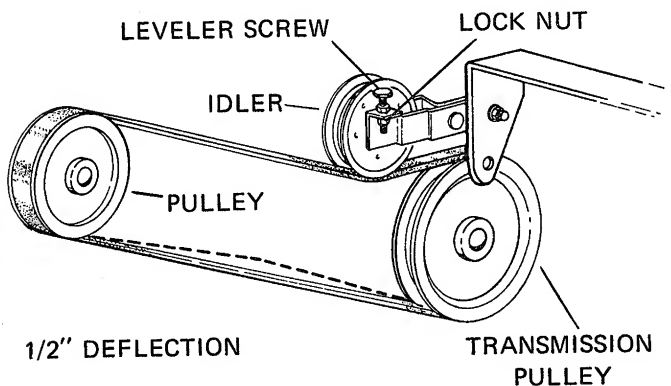


FIG. 8

## POWER TAKE OFF (PTO) (see Fig. 7)

**Adjustment** — If the PTO creeps when it is in the disengaged position the belt should be adjusted. To adjust:

1. Set the engagement lever in the **ENGAGED** position.
2. Remove the cotter-pin on the PTO adjusting rod.
3. Remove the rod from the bracket and unscrew it 3 complete turns and insert back into the bracket.
4. Replace the cotter-pin.

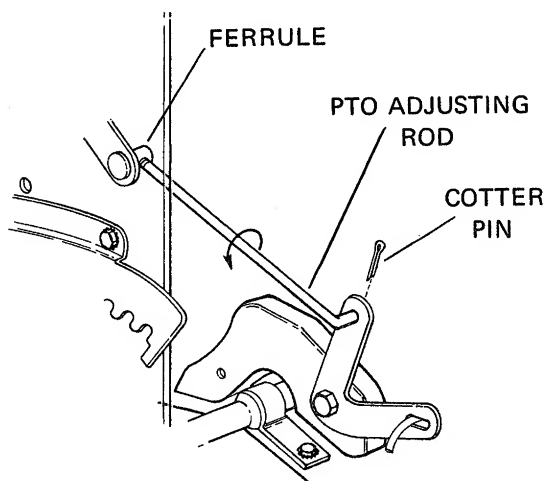


FIG. 7

## STARTER-GENERATOR BELT

If the starter-generator turns over and the engine does not turn over or there is a high pitched squeel when the starter-generator is turned on, it is an indication of a loose belt.

**Adjustment** — To tighten, loosen the bolt in the bracket slightly, loosen the bolt in the adjusting strap and swing the starter-generator away from the engine until the belt is tight. (Belt should deflect 1/4" when depressed with your thumb.) Tighten all bolts. (see Fig. 9)

**Removal** — Follow same procedure as above except when the bolts on the bracket and adjusting strap are loose, swing the starter-generator towards the engine until the old belt can be removed and replaced. Follow the above procedure for tightening the new belt. (see Fig. 9)

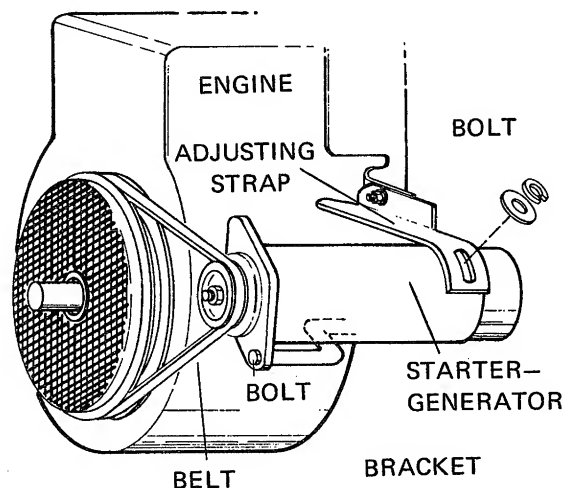


FIG. 9

## WHEEL TREAD ADJUSTMENT

The tread on the rear wheels is adjustable from 29" to 35" by loosening the hex nut on the rear hub and sliding the hub out. Do not extend the hub beyond the 3 inches. Tighten the hex nut. Both wheels should be in the same relative position on the axle. (see Fig. 10)

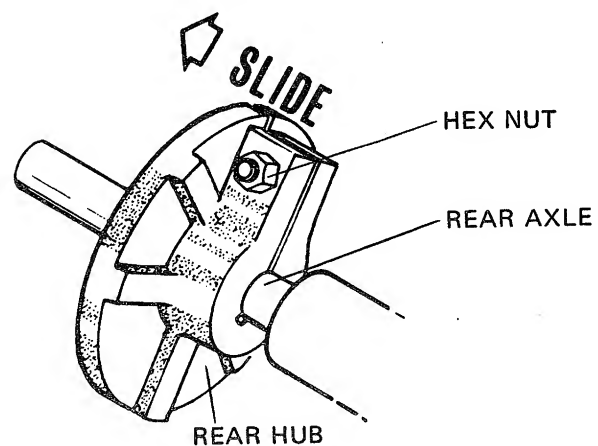


FIG. 10



## LIFT LEVER LOCKOUT

The lift lever can be locked out so it is free floating and the ratchet does not engage. This is done by depressing the thumb button on top of the lift lever and moving the lock-out in the direction of the arrow. (see Fig. 11)

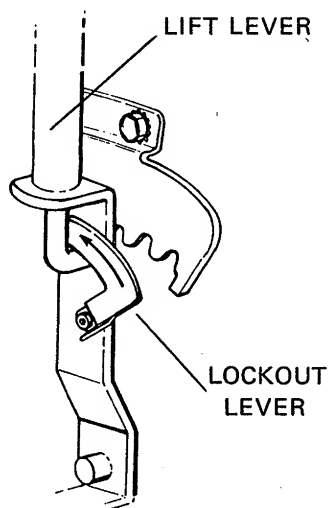


FIG. 11

## CLUTCH AND BRAKE ADJUSTMENT

The clutch and brake should always be adjusted at the same time. To adjust:

1. Loosen the elastic stop nut until the chain is slack.
2. Tighten the elastic stop nut until the SLACK is out of the chain. DO NOT OVERTIGHTEN.
3. Rotate the clutch housing by hand until one of the inspection holes is visible.
4. Depress the clutch brake pedal all the way and check the distance between the pressure plate and the clutch disc through the inspection hole.
5. If the distance is not between 1/16 and 3/16 of an inch, tighten the nut on the brake band through the hole in the upper left side of the rear frame until the proper clearance is obtained. (see Figs. 12 and 13)

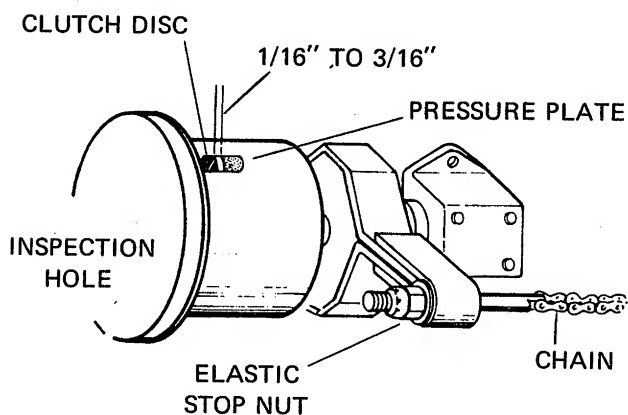


FIG. 12

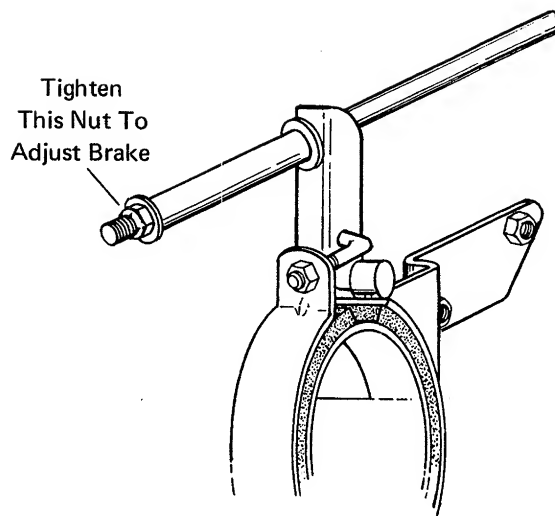


FIG. 13

## PLOW HITCH

The height of the single point is adjustable by removing the cotter-pins, removing the rod from the hitch, and screwing the rod in or out until the desired height is obtained. (see Fig. 14)

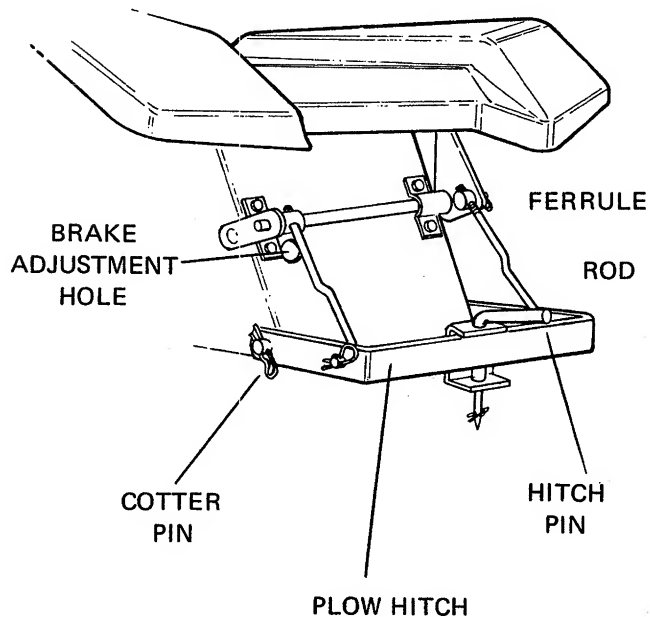


FIG. 14

## TIE ROD ADJUSTMENT (Toe-In)

The caster (forward slant of the kingpin) and the camber (tilt of the wheels out at the top) requires no adjustment. Automotive steering principles have been used to determine the caster and camber on the tractor.

The front wheels should be toe-in  $1/8''$ . To adjust the toe-in, loosen the hex jam nut, remove the elastic locknut, lift the tie rod end out of the hole in the steering arm and screw the tie-rod end in or out to make your adjustment. The distance "B" must be less than "A" by  $1/8''$ . (see Figs. 15 & 16)

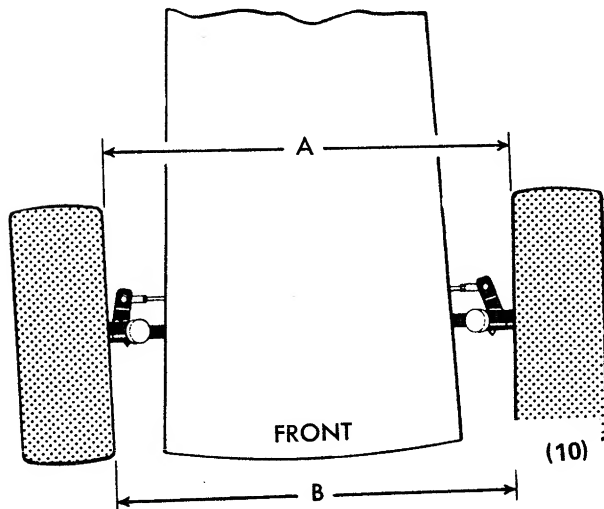


FIG. 15

## TIE-ROD END

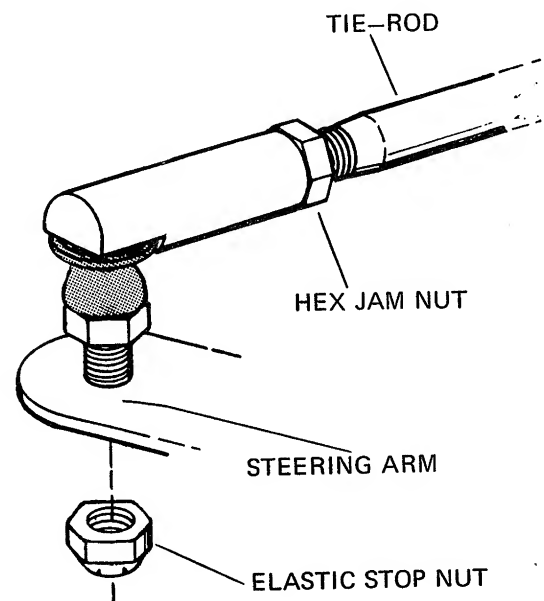


FIG. 16

## BATTERY CARE

**Battery Failure** — Many times new batteries are returned for charging within a few days or a week after sale. Before returning the battery to the dealer who sold you the tractor, make these following checks.

1. Was the battery fully charged when installed? The dry-pack battery should have been placed on a charger and the specific gravity of the battery should read 1.265 to 1.275 before it was installed in the tractor.
2. Were the battery terminals clean, greased and properly tightened when the battery was installed?
3. Batteries are usually involved in ANY starting failure, however, insufficient hours of driving, worn cables, trouble in the electrical system, corroded connections, slipping drive belt can cause a battery to become discharged without the battery being a fault.

## SERVICING YOUR BATTERY

It is all right to use drinking water in your battery, excluding mineral water.

Adding water to a battery cell will lower the specific gravity of the electrolyte. Water should not be added unless the tractor is going to be run immediately during freezing weather.

Maintain electrolyte level in the battery to the level indicated on the top of the battery.

Keep the terminals clean and coated with grease.

## BATTERY STORAGE

If your tractor is to be stored during an off-season, the battery should be removed from the tractor, placed on a charger until the specific gravity reads 1.265 to 1.275 and stored at approximately 72°F. Batteries should not be placed directly on cement as this will drain the battery. Re-charge to bring the specific gravity to normal before placing it in the tractor after storage.

## ENGINE REMOVAL

If the engine is removed from the tractor the following steps should be followed for the removal and installation of the engine.

### REMOVAL

1. Follow the steps to remove the Power Take Off belts shown in Fig. 6.
2. Remove the four engine bolts holding the engine to the frame of the tractor.
3. Remove the hood brace from the front grille to the dash board.
4. Remove the three wires to the starter-generator (red wire to the L.H. terminal and small black wire and large black wire to the R.H. terminal).
5. Shut off the gas valve and disconnect the gas hose.
6. Disconnect the throttle and choke wires to the engine.
7. Lift out the engine.

### INSTALLATION

1. Set the engine in position and tighten the four engine bolts finger tight.
2. Attach the Power Take Off belts. (see Fig. 6)
3. Assemble yoke to clutch plate with three bolts.
4. Attach hood brace and wiring.
5. Attach choke and throttle wires to engine.
6. Attach gas line and open valve.
7. Tighten engine bolts.
8. If vibration occurs, loosen the four bolts holding the Right Angle Drive Bracket to the frame (see Fig. 17), disconnect the spark plug wire, and while the engine is cranking, tighten the four bolts holding the Right Angle Drive Bracket. This is covered in detail in the Drive Train Removal Section of this manual.

## CLUTCH ASSEMBLY

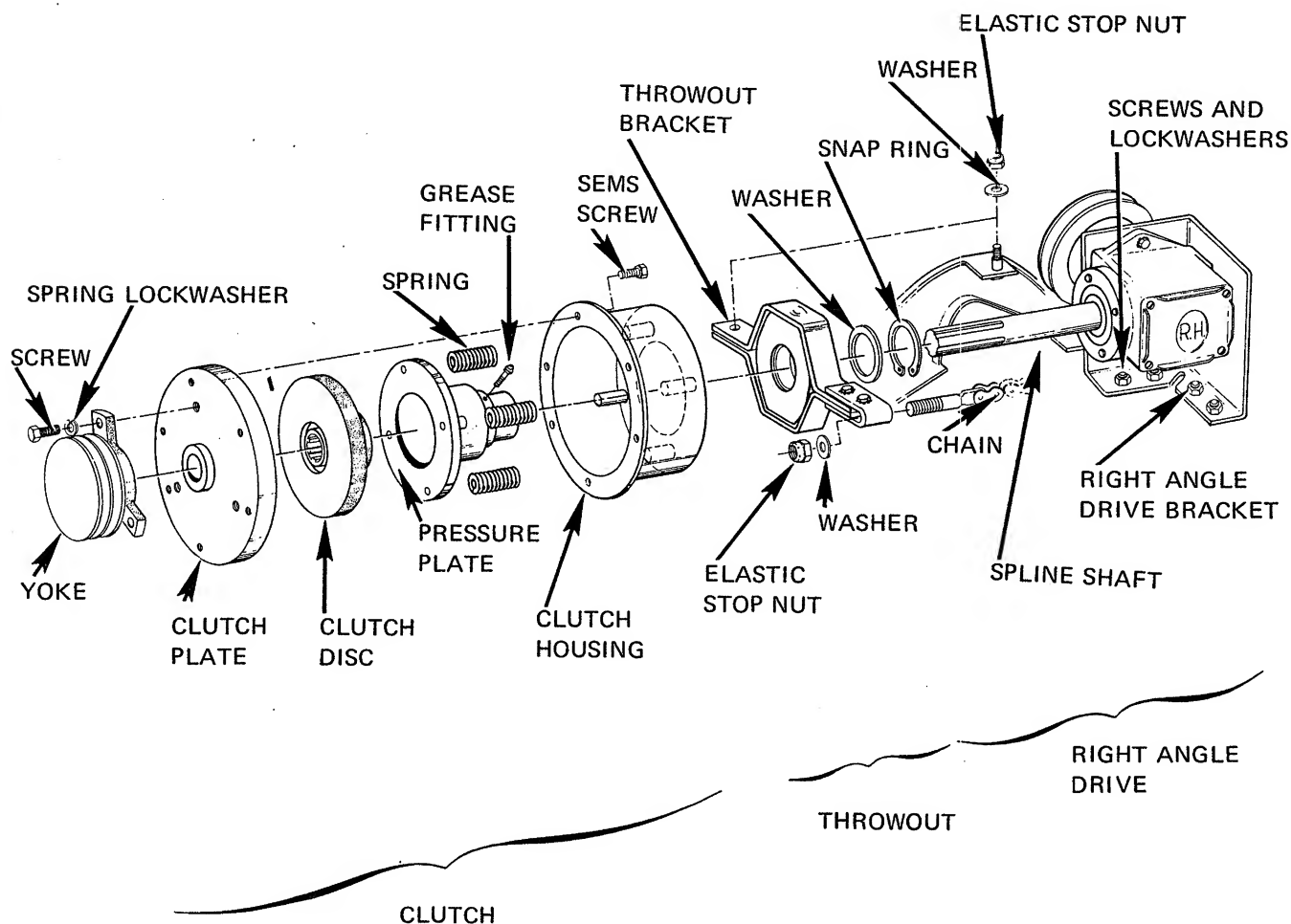


FIG. 17

## DRIVE TRAIN REPAIR

It is recommended that a centering plug for reassembly of the clutch be purchased through your nearest authorized central service firm before you disassemble the clutch. This special tool is only needed if the clutch housing is removed from the clutch plate. It is not necessary when working on the throwout or right angle drive. The part number of the centering plug is 901-\_\_\_\_\_. (see Fig. 21)

For any repair of the clutch, throwout or right angle drive it is necessary to remove this part of the drive unit from the tractor. (see Fig. 17)

1. Remove the elastic stop nut and washer on the chain.
2. Remove the elastic stop nut and washer on the throwout bracket.
3. Remove the four screws and spring lockwashers holding the right angle drive bracket to the frame of the tractor.
4. Remove the three screws and spring lockwashers holding the yoke to the clutch plate.
5. Move the right angle drive and the clutch back 1/4" and lift the entire unit out of the tractor.
6. Slide the spline shaft on the right angle drive out of the clutch.

### NOTE

The right angle drive can now be disassembled for repair. Refer to step 28 for putting the clutch and right angle drive back into the tractor.

If only the throwout is to be repaired, skip to step 12.

7. Unscrew the grease fitting.
8. Loosen the six sems screws holding the clutch housing to the clutch plate uniformly, in rotation, a few turns at a time until there is no tension on the springs and the sems screws can be unscrewed by hand.
9. Lift off the clutch housing which contains the pressure plate, springs and throwout as an entire unit.
10. Remove the clutch disc.
11. Inspect the pressure plate and the clutch plate. Replace if they show heavy or uneven wear.

### NOTE

If only the clutch disc is to be replaced, skip to step 20 for reassembly of the clutch.

To disassemble the pressure plate continue with step 12.

12. To disassemble the throwout or the pressure plate, remove the large snap ring and washer holding the throwout to the pressure plate. (Use large Tru Arc pliers to remove the snap ring.)

13. The throwout bearing is a press fit over the pressure plate and may have to be driven or pressed out with a hydraulic press. (see Fig. 18)

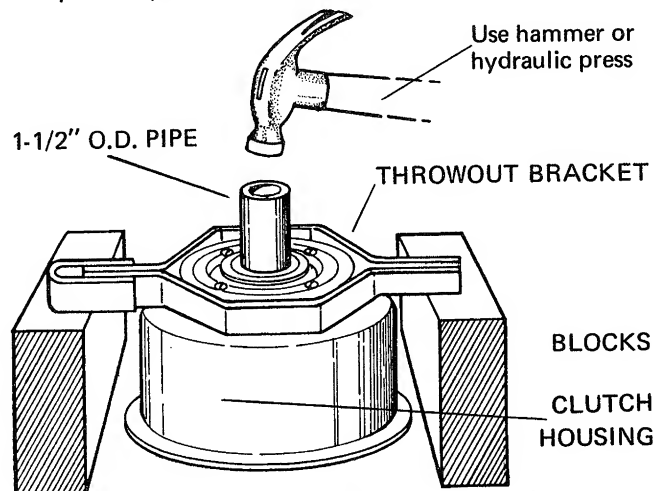


FIG. 18

14. **THROWOUT BEARING REPLACEMENT.** To replace the throwout bearing, remove the four round head screws holding the bearing retainer and lift out the throwout bearing. Note carefully the direction the bearing faces for reassembly. Reassemble with the new bearing. (see Fig. 19)

### NOTE

If only the throwout bearing is being replaced, reassemble the throwout, press over the pressure plate (with the four round head screws up) and fasten with the washer and snap ring. Slide spline shaft of the right angle drive into the clutch. Skip to step 28 for putting the clutch and right angle drive back into the tractor.

15. After the throwout is removed from the pressure plate the pressure plate, springs and clutch housing will come apart.

### NOTE

All four springs should be replaced at the same time, even if there is only one bad spring.

The needle bearings and seals can now be pressed out of the pressure plate and replaced if necessary.

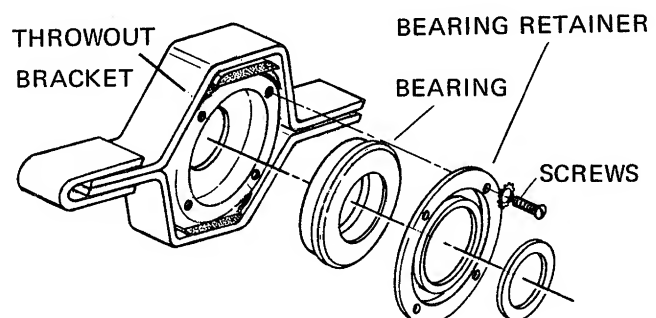


FIG. 19

## REASSEMBLY

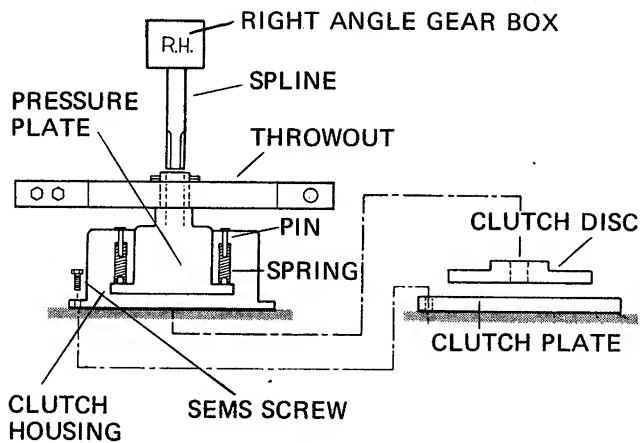


FIG. 20

16. REASSEMBLY. Place the large end of the pressure plate on the table with the small end up as shown. (see Fig. 20)
17. Place the four springs over the knobs on the pressure plate.
18. Place the clutch housing over the pressure plate with the pins on the clutch housing inside the springs.
19. Place the throwout (with the four round head screws up) over the pressure plate and assemble with the washer and snap ring.
20. Place the clutch plate on the table and lay the clutch disc on top of it.
21. Place the entire clutch housing on top of the clutch plate and screw in the six sems screws just enough for the threads to catch in the clutch plate.
22. Place the spline of the right angle drive through the throwout bearing and push it all the way down until it goes through the clutch disc. The clutch disc will have to be turned by hand until it lines up with the spline.
23. Screw the allen set screw into the centering plug (part number 901-\_\_\_\_\_) until the cone of the set screw shows through the end of the centering plug. (see Fig. 21)

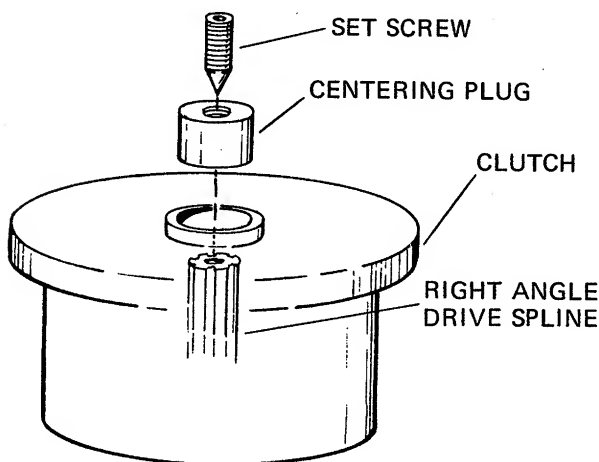


FIG. 21

24. Turn the clutch and right angle drive over so it rests on the right angle drive.
25. Place the centering plug in the end of the clutch plate and screw in the set screw until the plug just begins to lift out of the hole.
26. Turn the clutch and right angle drive over so it rests on the centering plug. (see Fig. 22)

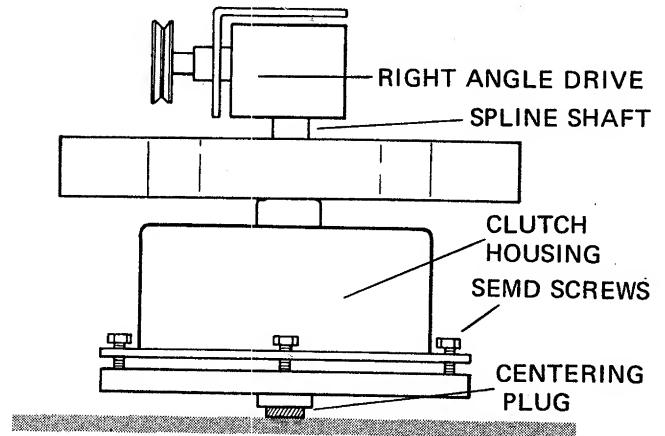


FIG. 22

27. Slowly tighten uniformly in rotation, the six sems screws until they are all tight.

### NOTE

Watch that the clutch housing doesn't bind going over the shoulder of the pressure plate. The clutch housing can be compressed to the clutch plate with two "C" clamps and then tighten the screws.

28. PLACING THE RIGHT ANGLE DRIVE AND CLUTCH INTO THE TRACTOR. Place the entire unit into the tractor and assemble the throwout to the pivot bolt with a washer and elastic stop nut. Tighten the elastic stop nut until it is snug and then back off one-half turn.
29. Assemble the yoke to the clutch plate with three screws and spring lockwashers.
30. Screw in four screws holding the right angle drive bracket to the frame finger tight.
31. REMOVE THE SPARK PLUG FROM THE ENGINE.
32. Turn the key and crank the engine.
33. While the engine is turning over, tighten the four screws holding the right angle drive bracket to the frame.
34. Assemble the elastic stop nut and washer to the chain. Tighten until the slack is gone in the chain. Tighten the adjusting nut on the brake until 1/16" to 3/16" clearance is between the clutch disc and the pressure plate when the clutch-brake pedal is depressed. See adjustment sections for details.

## LUBRICATION

Your tractor has been engineered to give you years of trouble-free service, however, by following these simple lubrication procedures, you can greatly extend the life of your tractor.

Ref. No.	LUBRICATION CHART (SEE FIG. 23-26)	25 Hours	50 Hours	Once a Season
1	Engine — Oil Recommendations. * Winter (Below 40°F) SAE 5W-20 Summer (Above 40°F) SAE 30	x		
2	Transaxle — Lubricated with 4 * pints of SAE E.P. 90 oil. Refill if below upper plug level.		x	
3	Right Angle Drive — Lubricated with 4 oz. of E.P.G. Lithium grease. Refill if below 4 oz.			x
GREASE FITTINGS ( ) No. of Fittings Use automotive multi-purpose grease				
4	Pivot Bolt (1)	x		
5	Wheel Bearings (2)	x		
6	King Pins (2)	x		
7	Deck Pivot Bar (2)	x		
8	Steering Arm (1)	x		
9	Clutch (1) +	x		
10	Power Take Off (1)	x		
APPLY GREASE Use automotive multi-purpose grease				
11	Steering and Segment Gears			x
12	Power Take Off Idler Brkt.			x
13	Power Take Off Lever			x
OIL THESE PARTS Use Engine Oil				
14	Lift Lever	x		
15	Chain (on Clutch 0 not shown)	x		
16	Plow Hitch	x		
17	Clutch Pivot Point	x		

Oil all other pivot points once a season.

\* Change oil after the first five hours of operation and every 25 hours thereafter. Use any high quality detergent oil.

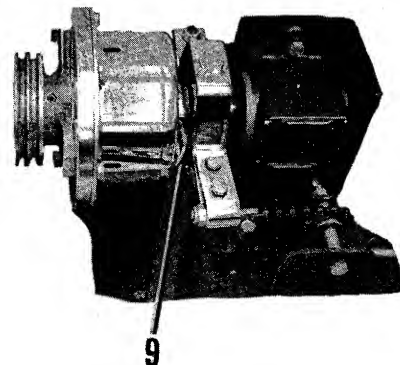
+ To lubricate the clutch, rotate the clutch housing until you can see the grease fitting. Depress the clutch-brake pedal and set the parking brake.

Lubricate with 3 squirts (1/2 oz.) of grease with the grease gun provided with your tractor or the equivalent. DO NOT OVER-LUBRICATE. Too much grease will go beyond the bearing and on to the face of the clutch.

The following parts are sealed and require no further lubrication:

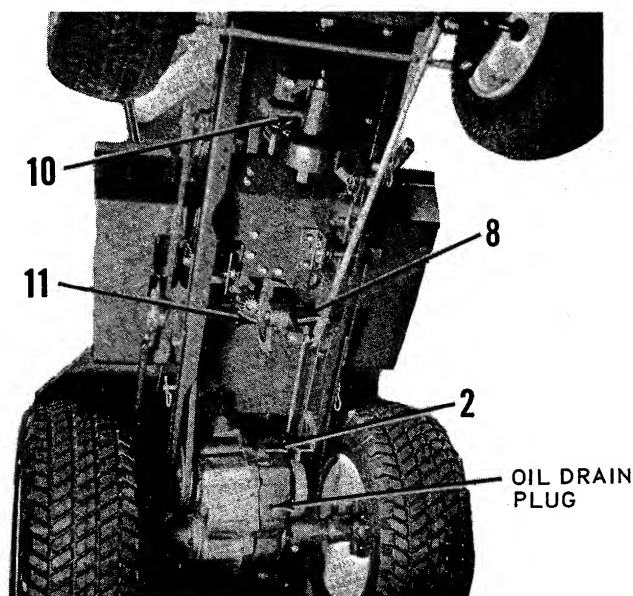
Idler Bearings:  
Power Take Off  
Transaxle Belt

Tie Rod and Drag Link Ends



CLUTCH

FIG. 23



BOTTOM  
OF  
TRACTOR

FIG. 24

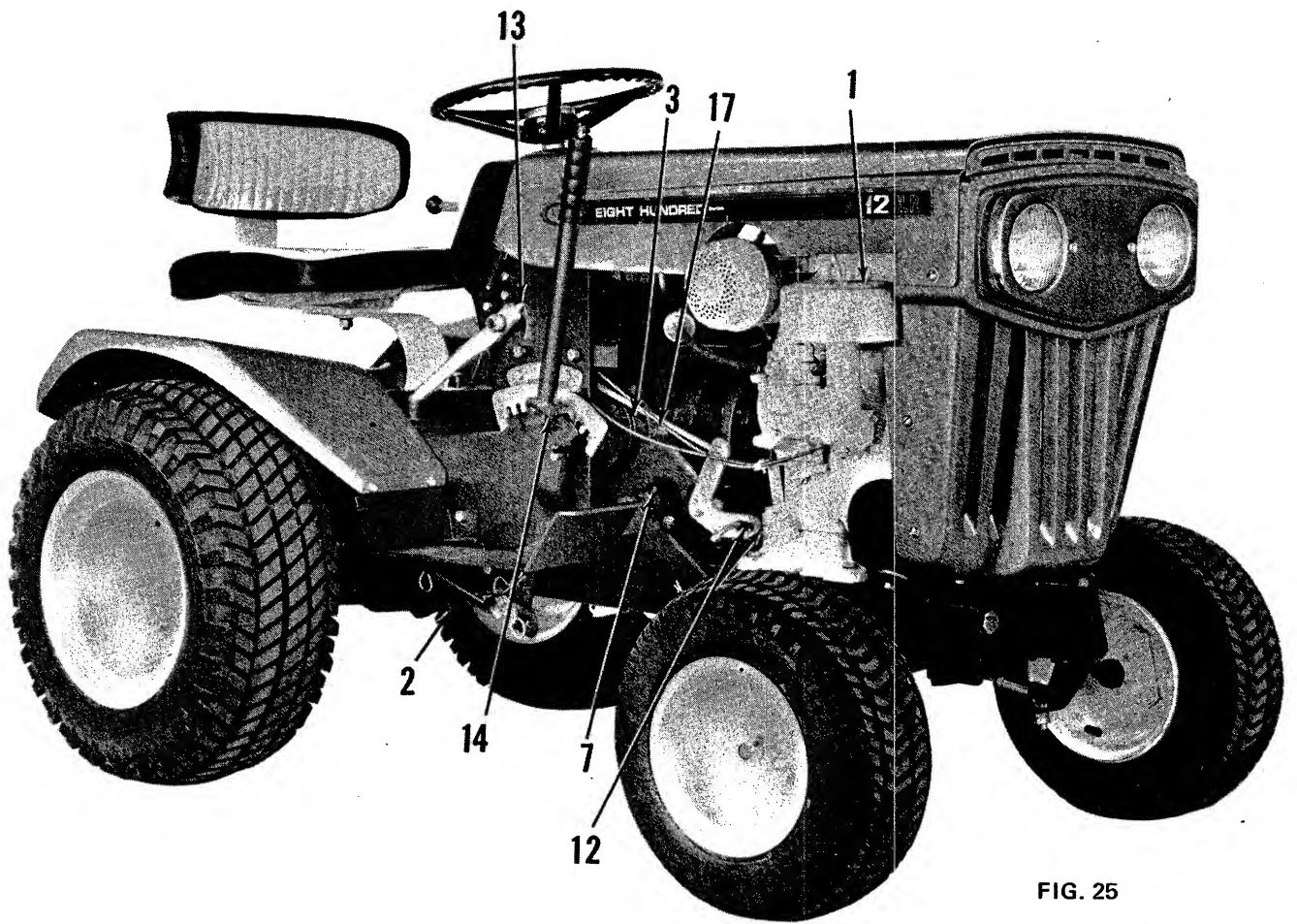


FIG. 25

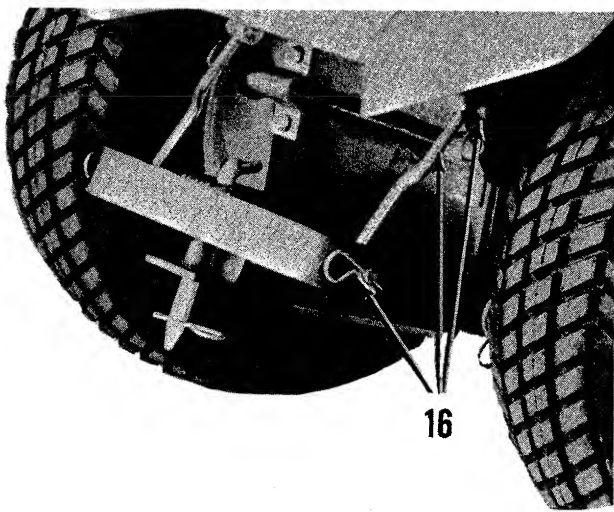


FIG. 27

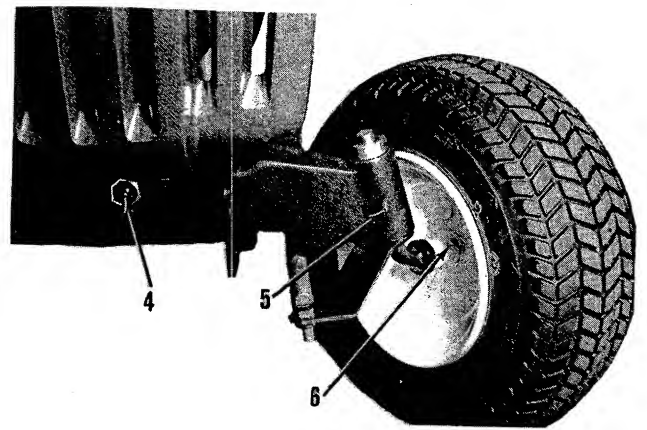
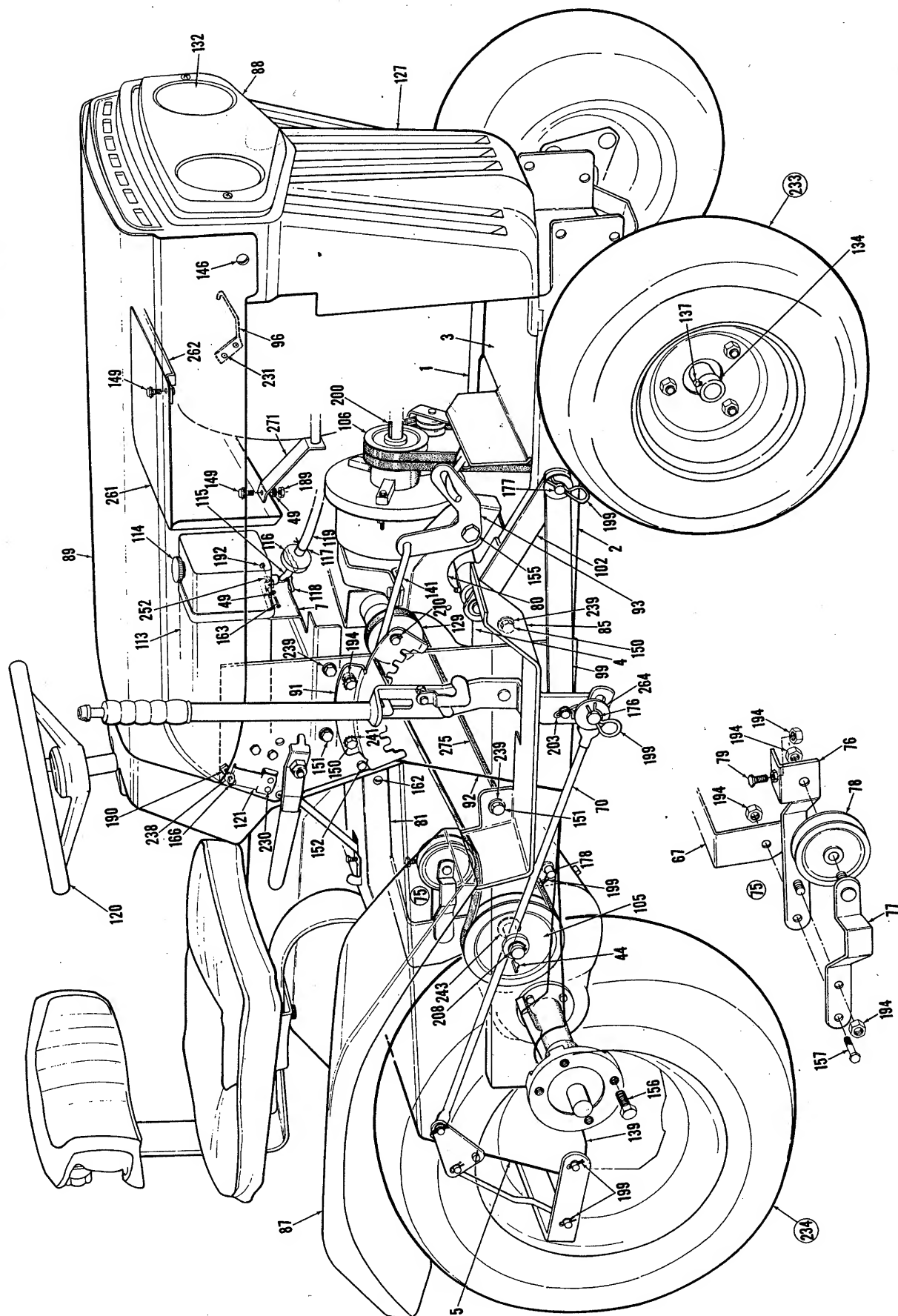


FIG. 26



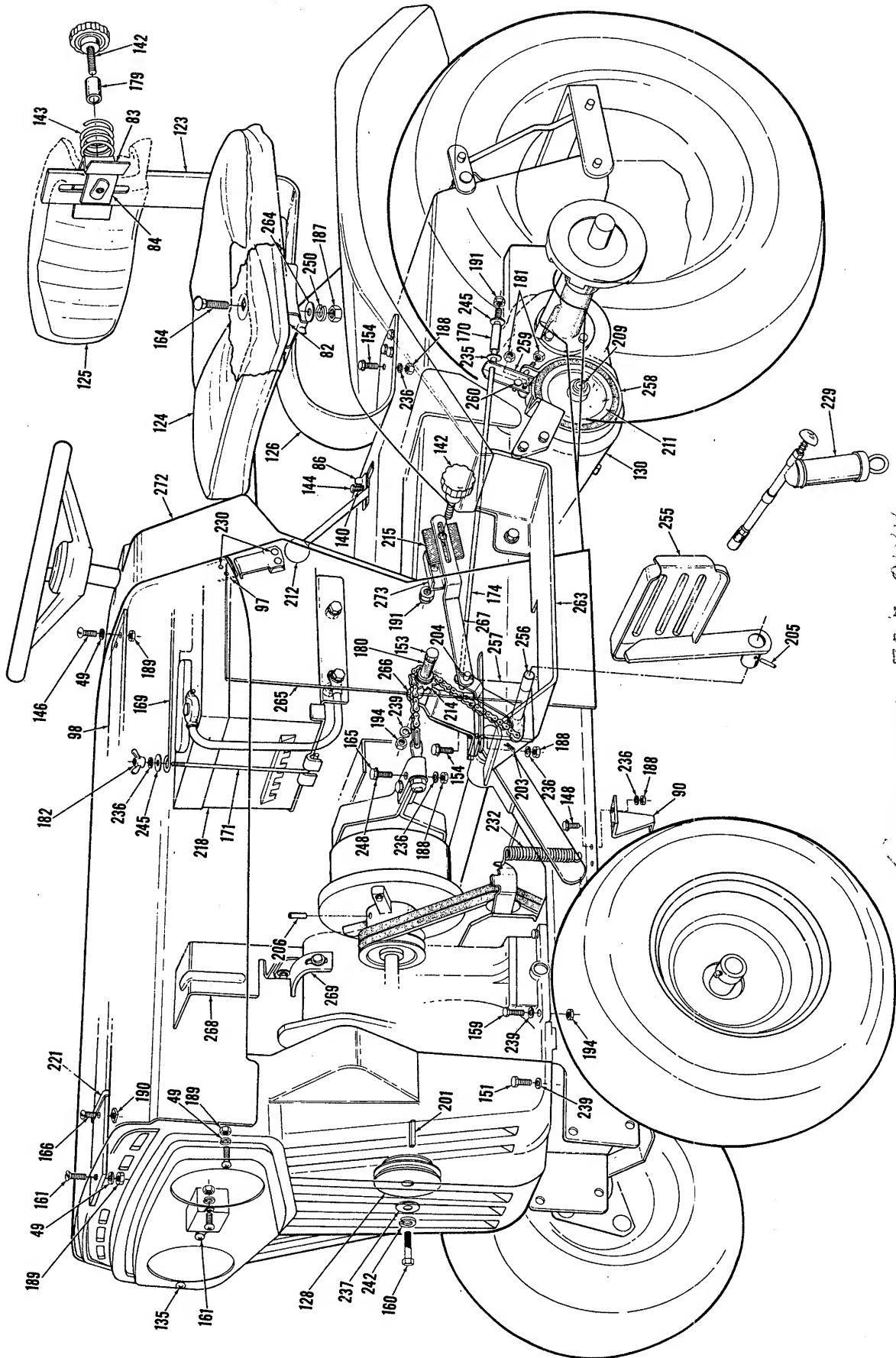
# ILLUSTRATED PARTS FOR 148-760 AND 148-860 TRACTOR

148-760  
148-860



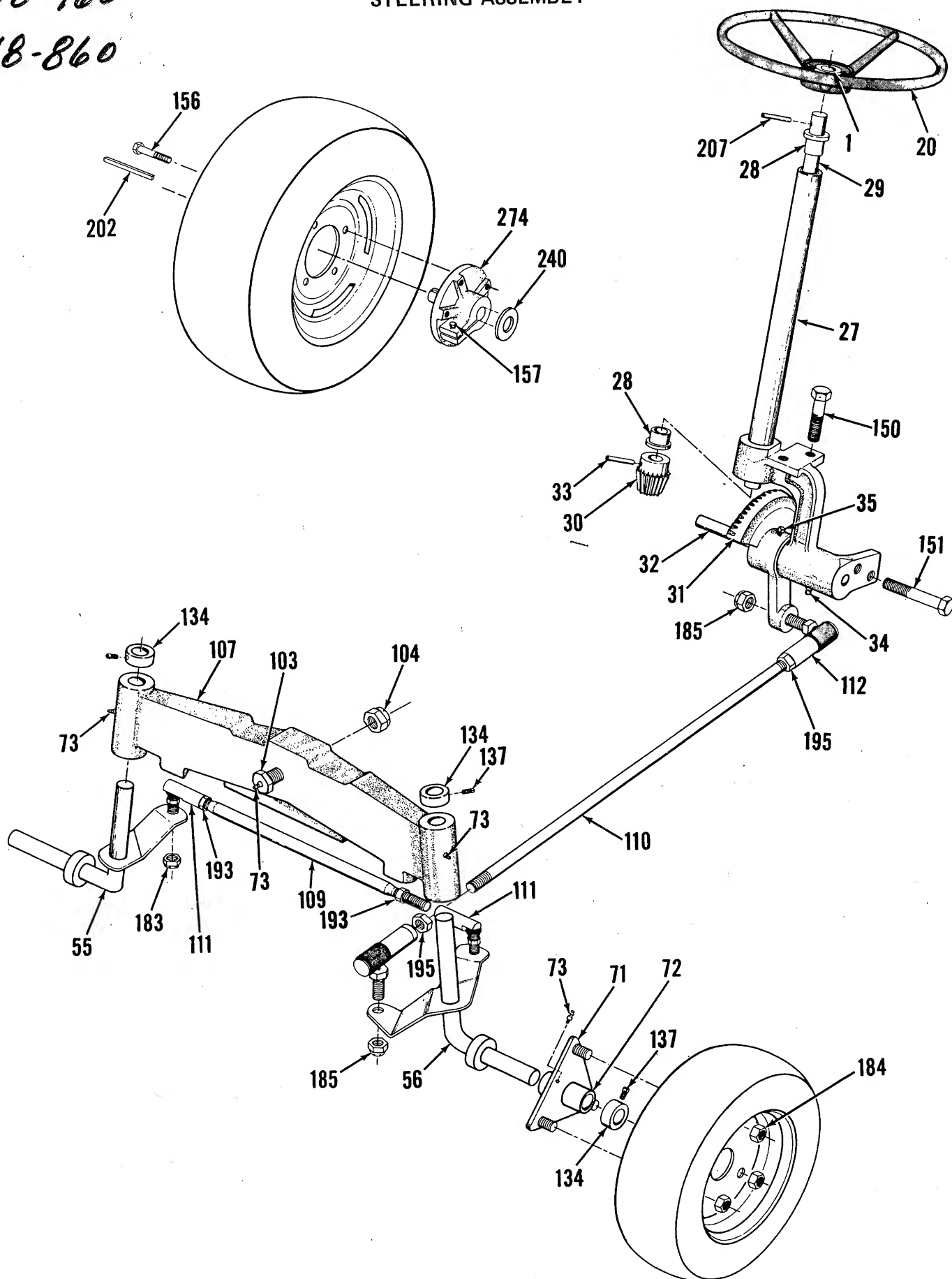
# L. H. FULL VIEW

148-760  
148-860



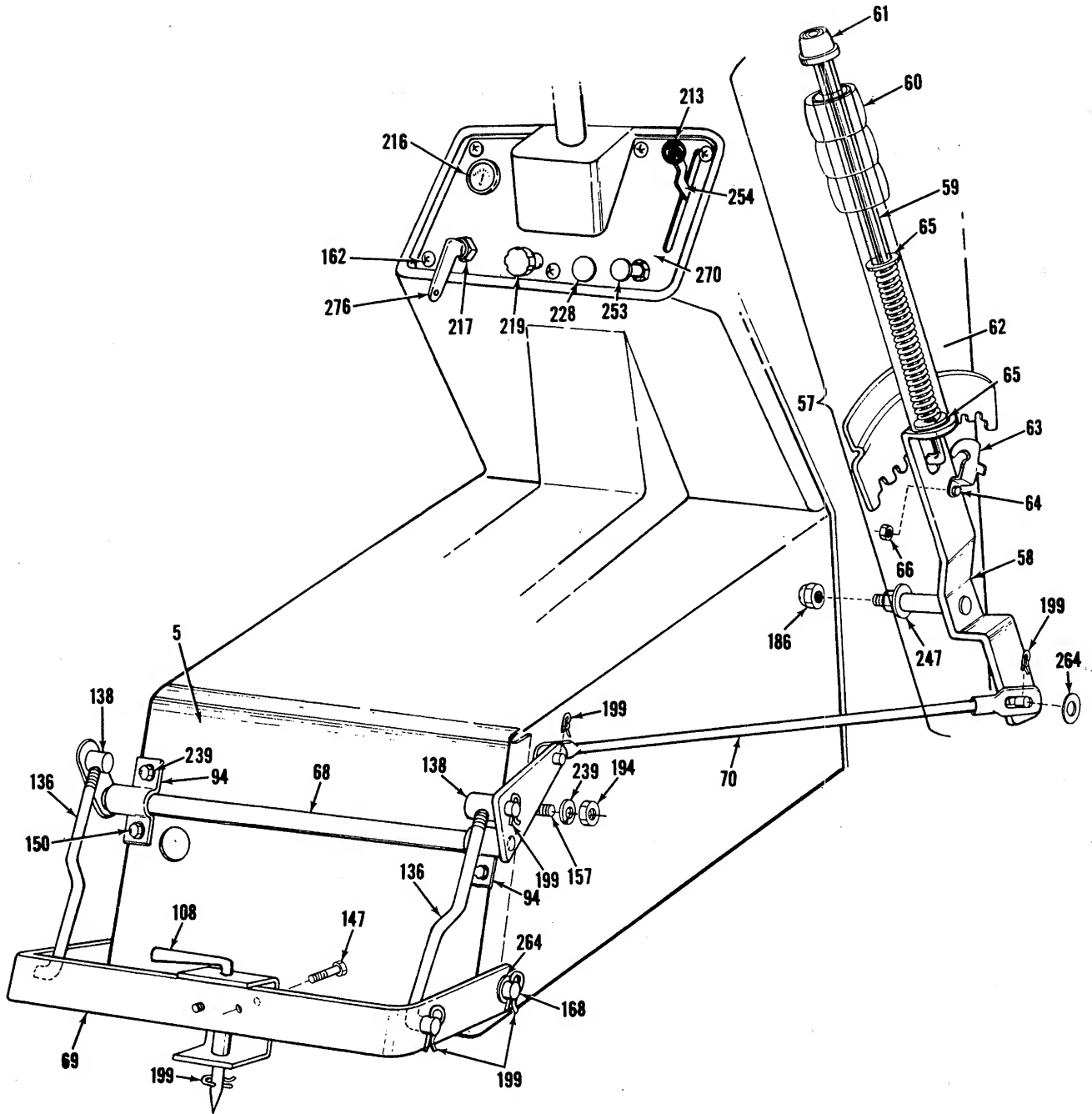
GENERATOR 725-0144  
GENERATOR BELT 754-0139

## STEERING ASSEMBLY

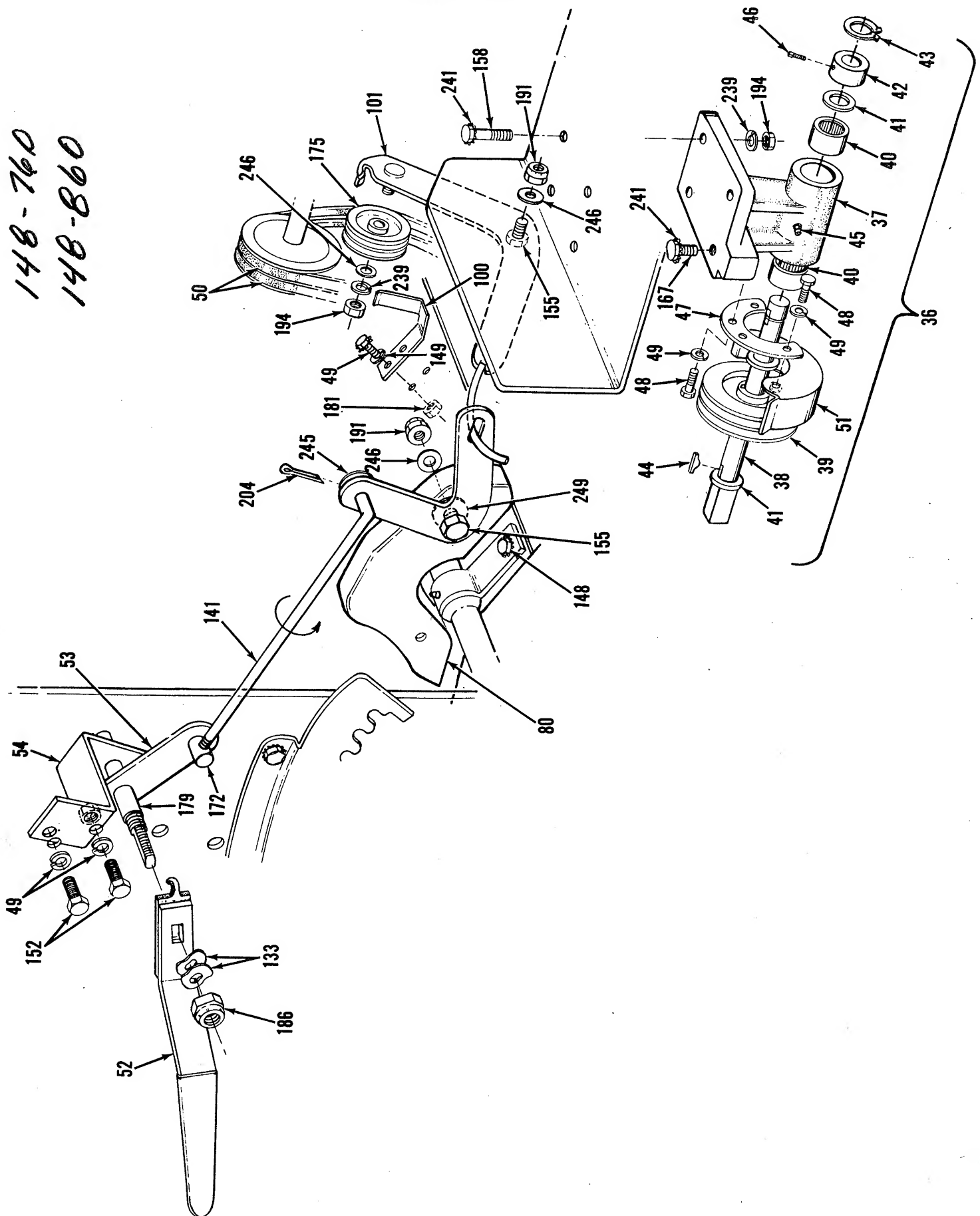


# LIFT LEVER & PLOW HITCH

148-760  
148-860



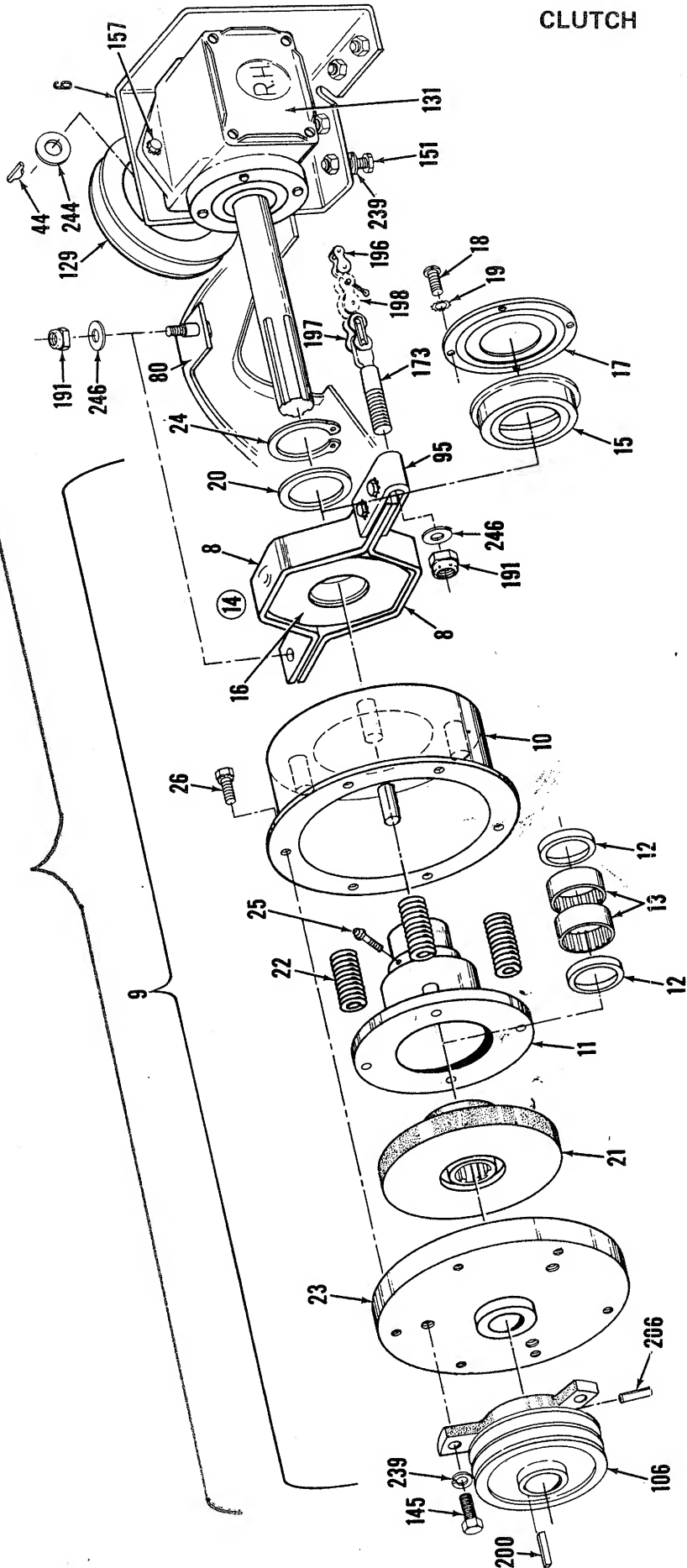
148-760  
148-860



148-760  
148-860

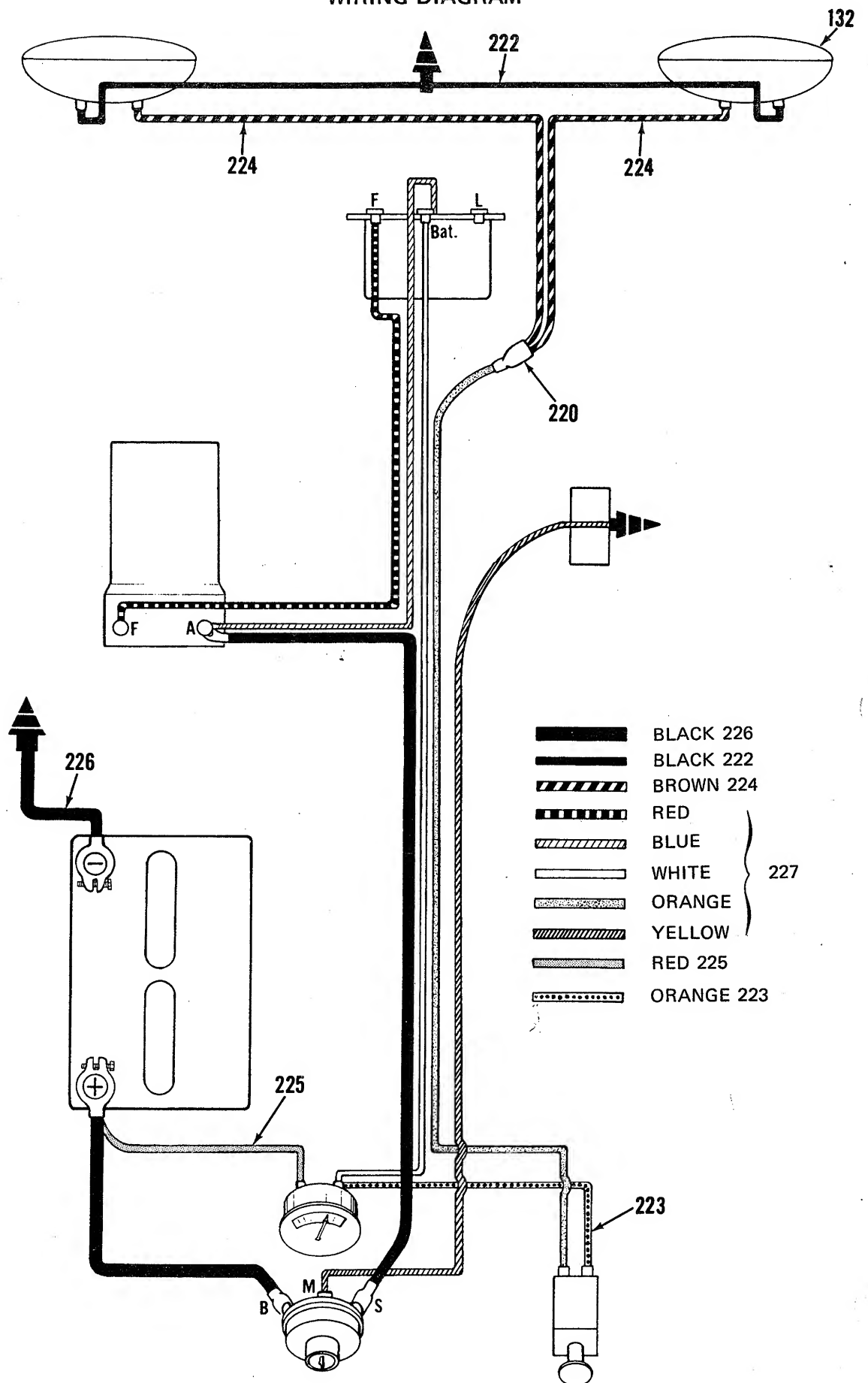
901-10148

CLUTCH



148-760  
148-860

# WIRING DIAGRAM



- BLACK 226
  - BLACK 222
  - BROWN 224
  - RED
  - BLUE
  - WHITE
  - ORANGE
  - YELLOW
  - RED 225
  - ORANGE 223
- 227



# PARTS LIST FOR 148-760 AND 148-860 TRACTORS

Ref. No.	Part Number	DESCRIPTION	Ref. No.	Part Number	DESCRIPTION
1.	394-9401	Frame - Rail Assembly - L. H.	65.	736-185	Flat Washer*
2.	394-9402	Frame - Rail Assembly - R. H.	66.	712-107	Hex Locknut 1/4-20 Thd.*
3.	394-9511	Frame - Front	67.	394-9455	Transaxle Mount Bracket Assembly
4.	394-9403	Gear Box Mount Assembly	68.	394-9463	Hitch Lift Pivot Assembly
5.	394-9406	Frame - Plate Assembly - Rear	69.	394-9471	Hitch Bar Assembly
6.	394-9410	Gear Box Mounting Bracket Assembly	70.	394-9460	Hitch Lift Rod Assembly
7.	394-9412	Gas Tank & Bat. Mount. Bracket Assembly	71.	394-9510	Front Hub Assembly
8.	394-9414	Clutch Yoke Assembly	72.	748-143	Flange Bearing
9.	394-9565	Clutch Assembly Complete	73.	737-108	Grease Fitting
10.	394-9418	Clutch Housing Assembly	75.	394-9583	Idler Bracket Assembly Complete
11.	310-9564	Pressure Plate Assembly	76.	394-9446	Left Half Bracket Assembly
12.	721-106	Grease Seal	77.	394-9479	Right Half Bracket Assembly
13.	741-122	Needle Bearing	78.	711-305	Idler Bearing
14.	901-9566	Throwout Bearing Assembly	79.	710-307	Leveler Screw
15.	741-121	Throwout Bearing	80.	394-9561	Clutch Yoke Pivot Bracket
16.	719-127	Throwout Bearing Collar	81.	394-9580	Center Console Assembly
17.	310-9498	Bearing Retaining Ring	82.	312-9522	Seat Assembly
18.	710-473	Truss Hd. Machine Screw #10-24 x 1/2 lg.*	83.	312-9572	Seat Back Assembly
19.	736-147	External Lockwasher #10 Screw*	84.	312-9569	Seat Slide Plate Assembly
20.	736-184	Throwout Washer	85.	394-9582	Foot Pad Assembly - R. H.
21.	717-134	Clutch Disc Assembly	86.	394-9480	Second Gear Stop
22.	732-176	Compression Spring	87.	395-9493	Rear Fender
23.	719-128	Clutch Drive Plate	88.	394-9516	Bezel - Head Lamp
24.	716-112	Snap Ring	89.	395-9525	Hood
25.	737-110	Grease Fitting 1/4-28 x 1-1/2 lg.	90.	394-9438	PTO Spring Bracket
26.	710-198	Sems Hex Hd. Lock Screw 5/16-18 x 3/4 lg.*	91.	394-9433	Index Bracket
27.	394-9517	Steering Tube Seg. Assembly	92.	394-9408	Side Plate R. H.
28.	748-157	Steering Tube Bushing	93.	394-9477	Idler Crank
29.	310-9535	Steering Rod	94.	394-9475	Hitch Pivot Mounting Bracket
30.	719-121	Pinion Gear	95.	394-9452	Clutch Yoke Clevis
31.	719-122	Gear Segment	96.	394-9538	Hood Stop
32.	310-9563	Gear Segment Shaft	97.	394-9575	Hood Catch
33.	715-114	Spirol Pin 1/4 x 1-1/2 lg.	98.	394-9576	Grille Brace
34.	737-479	Grease Fitting	99.	394-9479	Lift Bar
35.	710-349	Square Hd. Set Screw 5/16-18 x 3/4 lg.*	100.	394-9476	PTO Belt Trapout
36.	901-9578	PTO Shaft Assembly - Complete	101.	394-9502	Clutch Idler Bracket Assembly
37.	719-134	PTO Shaft Housing	102.	394-9457	Pivot Bar Assembly
38.	711-298	PTO Shaft	103.	710-335	Pivot Bolt
39.	719-130	PTO Drive Pulley	104.	712-205	Elastic Stop Nut 3/4-10 Thd.
40.	741-123	Needle Bearings 3/4 I.D. x 1.187 O.D.	105.	719-123	Transaxle Drive Sheave
41.	736-183	Thrust Washer 3/4 I.D.	106.	719-126	PTO Drive and Adapter
42.	748-386	Collar	107.	719-133	Front Axle Support
43.	716-110	Snap Ring	108.	711-282	Hitch Pin
44.	714-314	Key - Hi Pro #606	109.	711-285	Tie Rod
45.	737-109	Grease Fitting 1/4-28 x 11/16 Thd.	110.	711-286	Drag Link
46.	710-356	Sq. Hd. Cup. Pt. Set Screw 5/16-18 x 1/2 lg.*	111.	723-156	Tie Rod Ends
47.	394-9496	PTO Mounting Bracket	112.	723-179	Drag Link Ends
48.	710-289	Hex Head Screw 1/4-20 x 1/2 lg.	113.	723-182	Gas Tank w/straps
49.	736-329	Spring Lockwasher 1/4 Screw*	114.	723-155	Gas Gauge
50.	754-123	PTO Belt 33" lg.+	115.	723-152	Gas Hose 1/2" O.D. x 1/4" I.D. x 1-1/2" lg.
51.	394-9494	PTO Belt Guard Assembly	116.	723-154	Gas Filter
52.	310-9439	PTO Handle	117.	723-157	Hose Clamps 1/2" O.D.
53.	394-9539	PTO Handle Shaft Assembly	118.	723-159	Gas Valve
54.	394-9450	Handle Support Assembly	119.	723-178	Gas Hose 1/2" O.D. x 1/4" I.D. x 8-1/4" lg.
55.	394-9422	Axle Assembly - Front - R. H.	120.	723-185	Steering Wheel
56.	394-9423	Axle Assembly - Front L. H.	121.	723-186	Hood Latch
57.	901-9466	Lift Handle Assembly Complete	122.	723-188	Steering Wheel Cap
58.	394-9467	Lift Handle Assembly	123.	723-189	Seat Back Spring
59.	394-9470	Handle Spacer Tube	124.	723-190	Seat Cover
60.	305-8818	Handle Grip	125.	723-191	Seat Back Rest Cover
61.	726-110	Push Cap	126.	723-181	Seat Spring
62.	732-156	Compression Spring	127.	719-139	Grille
63.	394-9448	Lift Handle Lockout	128.	719-137	Front Sheave
64.	710-252	Hex Hd. Cap Screw 1/4-20 x 3/4 lg.*	129.	719-140	Gear Box Sheave
			130.	717-142	Transaxle w/gear Shift Lever

# PARTS LIST FOR 148-760 AND 148-860 TRACTORS

Ref. No.	Part Number	DESCRIPTION	Ref. No.	Part Number	DESCRIPTION
131.	717-143	Right Angle Gear Box	196.	713-115	Clutch Bracket Chain
132.	725-133	Head Lamp	197.	713-116	Master Link
133.	736-182	Wave Washer	198.	713-123	Half Link
134.	748-386	Axle Collar	199.	714-117	Hairpin - Cotter
135.	710-346	Oval Hd. Screw 1/4-20 x 1-1/2 Ig.*	200.	714-118	Square Key 1/4 x 1-1/2 Ig.*
136.	711-277	Hitch Adjusting Screw	201.	714-119	Square Key 1/4 x 3/4 Ig.*
137.	710-356	Sq. Hd. Set Screw 5/16-18 x 1/2 Ig.*	202.	714-120	Square Key 1/4 x 3 Ig.*
138.	711-294	Rear Hitch Ferrule	203.	714-121	Cotter-Pin 5/32 Dia. x 1 Ig.*
139.	394-9405	Frame - Rear	204.	714-474	Cotter - Pin 1/8 Dia. x 3/4 Ig.*
140.	731-145	Spring	205.	715-107	Spirol Pin 5/16 x 1-3/8 Heavy Duty*
141.	711-293	PTO Clutch Rod	206.	715-113	Spirol Pin 5/16 x 2-1/2 Heavy Duty*
142.	722-117	Parking Brake Knob	207.	715-101	Spirol Pin 1/4 x 2-1/2
143.	732-179	Compression Spring	208.	716-101	Snap Ring Truarc #5100-75
144.	710-106	Hex Hd. Cap Screw 1/4-20 x 1-1/2 Ig.*	209.	716-102	Snap Ring Truarc #5100-100
145.	710-152	Hex Hd. Cap Screw 3/8-24 x 1 Ig. (Heat Treated)*	210.	716-111	Snap Ring Truarc #5100-87
146.	710-166	Truss Hd. Machine Screw 1/4-20 x 1-1/8 Ig.*	211.	719-132	Brake Disc
147.	710-182	Hex Hd. Cap Screw 1/2-13 x 3 Ig.*	212.	722-116	Gear Shift Knob
148.	710-198	Sems Hex Hd. Cap Screw 5/16-18 x 3/4 Ig.*	213.	722-118	Throttle Control Knob
149.	710-211	Sems Hex Hd. Cap Screw 1/4-20 x 3/4 Ig.*	214.	723-168	Clutch Idler Sprocket
150.	710-216	Hex Head Cap Screw 3/8-16 x 3/4 Ig.*	215.	723-188	Serrated Plate
151.	710-253	Hex Head Cap Screw 3/8-16 x 1 Ig.*	216.	725-119	Ammeter
152.	710-258	Hex Head Cap Screw 1/4-20 x 5/8 Ig.*	217.	725-129	Ignition Switch
153.	710-316	Hex Head Cap Screw 3/8-16 x 3-1/2 Ig.*	218.	725-130	Battery - 12 volt
154.	710-322	Sems Hex Hd. Cap Screw 5/16-18 x 1 Ig.*	219.	725-131	Light Switch
155.	710-334	Shoulder Screw 3/8-16 x .625 Dia.	220.	725-132	3-Way Receptacle
156.	710-336	Wheel Lug Bolts 7/16-20 x 1-3/16 Ig.*	221.	725-134	Cable Ties
157.	710-342	Hex Hd. Cap Screw 3/8-16 x 1-1/4 Ig.*	222.	725-135	Head Lamp Ground Wire
158.	710-344	Hex Hd. Cap Screw 3/8-16 x 1-1/2 Ig.*	223.	725-136	Wire - Light Switch to Ammeter
159.	710-347	Hex Hd. Cap Screw 3/8-16 x 1-3/4 Ig.*	224.	725-137	Head Lamp Hot Wire
160.	710-348	Hex Hd. Cap Screw 7/16-20 x 3/4 Ig.*	225.	725-138	Wire - Battery to Ammeter
161.	710-350	Counter Sunk Flat Hd. Screw 1/4-20 x 1 Ig.*	226.	725-139	Wire - Battery Ground
162.	710-351	Phil. Hd. Screw #10-Type Z - 1/2 Ig.*	227.	725-140	Wire Harness
163.	710-355	Rd. Hd. Screw 1/4-20 x 1-1/4 Ig.*	228.	726-119	Button
164.	710-360	Carriage Bolt, 1/2-13 x 1-3/4 Ig.*	229.	727-143	Grease Gun
165.	710-442	Hex Hd. Cap Screw 5/16-18 x 1-1/2 Ig.*	230.	728-111	Pop Rivet SD 44 B 5
166.	710-473	Truss Hd. Mach. Screw #10-24 x 1/2 Ig.*	231.	728-113	Pop Rivet SD 64 B 3
167.	710-937	Hex Hd. Cap Screw 3/8-16 x 2-1/2 Ig.*	232.	732-155	Extension Spring
168.	711-225	Clevis Pin	233.	503-9262	Wheel Assembly - Complete
169.	711-278	Battery Hold Down Rod		312-9262	Wheel Rim
170.	711-280	Brake Spacer Tube		734-251	Tire - Tubeless 16 x 6.50-8
171.	711-284	Battery Hold Down Stud	234.	734-262	Wheel Assembly - Complete
172.	711-288	Ferrule		734-279	Wheel Rim
173.	711-289	Clutch Stud		734-278	Tire - Tubeless 23 x 8.50-12
174.	711-292	Brake Rod	235.	736-105	Belleville Washer
176.	711-308	Clevis Pin	236.	736-119	Spring Lockwasher 5/16 Screw*
177.	711-309	Clevis Pin	237.	736-133	Flat Washer*
178.	711-310	Clevis Pin	238.	736-147	External Lockwasher #10 Screw*
179.	711-313	Sleeve	239.	736-169	Spring Lockwasher 3/8 Screw*
180.	711-318	Clutch Sprocket Spacer	240.	736-163	Flat Washer*
181.	712-107	Hex Hd. Centerlock Nut 1/4-20 Thd.*	241.	736-148	External Lockwasher 3/8 Screw*
182.	712-113	Wing Nut 1/4-20 Thd.*	242.	736-171	Spring Lockwasher 7/16 Screw*
183.	712-116	Elastic Stop Nut 3/8-24 Thd.*	243.	736-180	Flat Washer*
184.	712-193	Lug Nut 3/8-24 Thd.	244.	736-181	Flat Washer*
185.	712-200	Elastic Stop Nut 1/2-20 Thd.*	245.	736-264	Flat Washer 5/16 SAE*
186.	712-204	Elastic Stop Nut 1/2-13 Thd.*	246.	736-300	Flat Washer*
187.	712-206	Hex Nut 1/2-13 Thd.*	247.	736-466	Flat Washer*
188.	712-267	Hex Nut 5/16-18 Thd.*	248.	736-607	External Lockwasher 5/16 Screw
189.	712-287	Hex Nut 1/4-20 Thd.*	249.	736-860	Flat Washer*
190.	712-425	Square Nut #10-24 Thd.*	250.	736-921	Spring Lockwasher 1/2 Screw*
191.	712-430	Elastic Stop Nut 3/8-16 Thd.*	251.	737-111	Muffler Nipple 1" Dia. x 6" Ig.*†
192.	712-492	Square Nut 1/4-20 Thd.*	252.	737-112	Gas Tank Nipple 3/8" Dia.*
193.	712-711	Hex Jam Nut 3/8-24 Thd.*	253.	746-129	Choke Control
194.	712-798	Hex Nut 3/8-16 Thd.*	254.	746-130	Throttle Control
195.	712-922	Hex Nut 1/2-20 Thd.*	255.	310-9420	Clutch - Brake Pedal Assembly
			256.	394-9428	Clutch Brake Crank Assembly

# PARTS LIST FOR 148-760 AND 148-860 TRACTORS (Continued)

Ref. No.	Part Number	DESCRIPTION	Ref. No.	Part Number	DESCRIPTION
257.	394-9431	Clutch Shaft Bracket Assembly	267.	394-9445	Parking Brake Link
258.	310-9430	Brake Band Assembly - Complete	268.	312-9526	Generator Bracket
259.	310-9437	Brake Link	269.	312-9527	Generator Pivot Bracket
260.	711-152	Adjusting Screw	270.	310-9528	Bezel - Instrument Panel
261.	312-9531	Heat Shield Assembly	271.	312-9534	Heat Shield Angle Bracket
262.	312-9529	Heat Shield Mounting Bracket Assembly	272.	305-9584	Instrument Panel
263.	394-9581	Foot Pad Assembly L. H.	273.	394-9443	Parking Brake Bracket Assembly
264.	310-7387	Flat Washer	274.	719-136	Rear Wheel Hub
265.	394-9409	Side Plate L. H.	275.	754-124	Belt - Transaxle Drive 57-3/8 lg. (Gates 9224-2701)
266.	394-9417	Clutch Sprocket Bracket			

276 725-128 KEY

\* For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

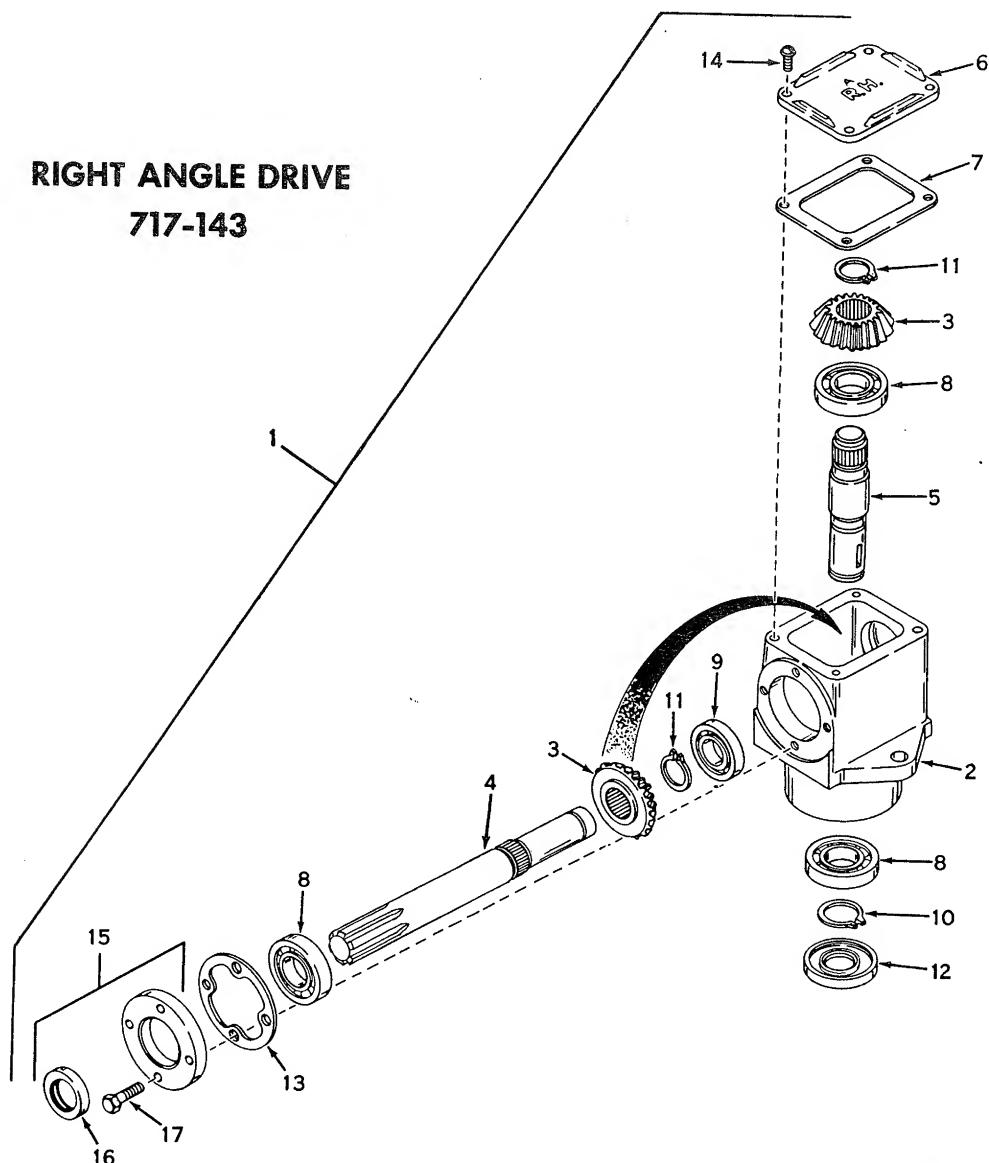
+ Power Take Off belts are matched. Always order in pairs.

‡ Not shown. Nipple between engine and muffler.

175-11-300 ~~APR 1968~~  
756-127-FOLE 12-PTO

9-43 2-1/2  
6-8 1-1/2  
8-1 1-1/2

**RIGHT ANGLE DRIVE  
717-143**



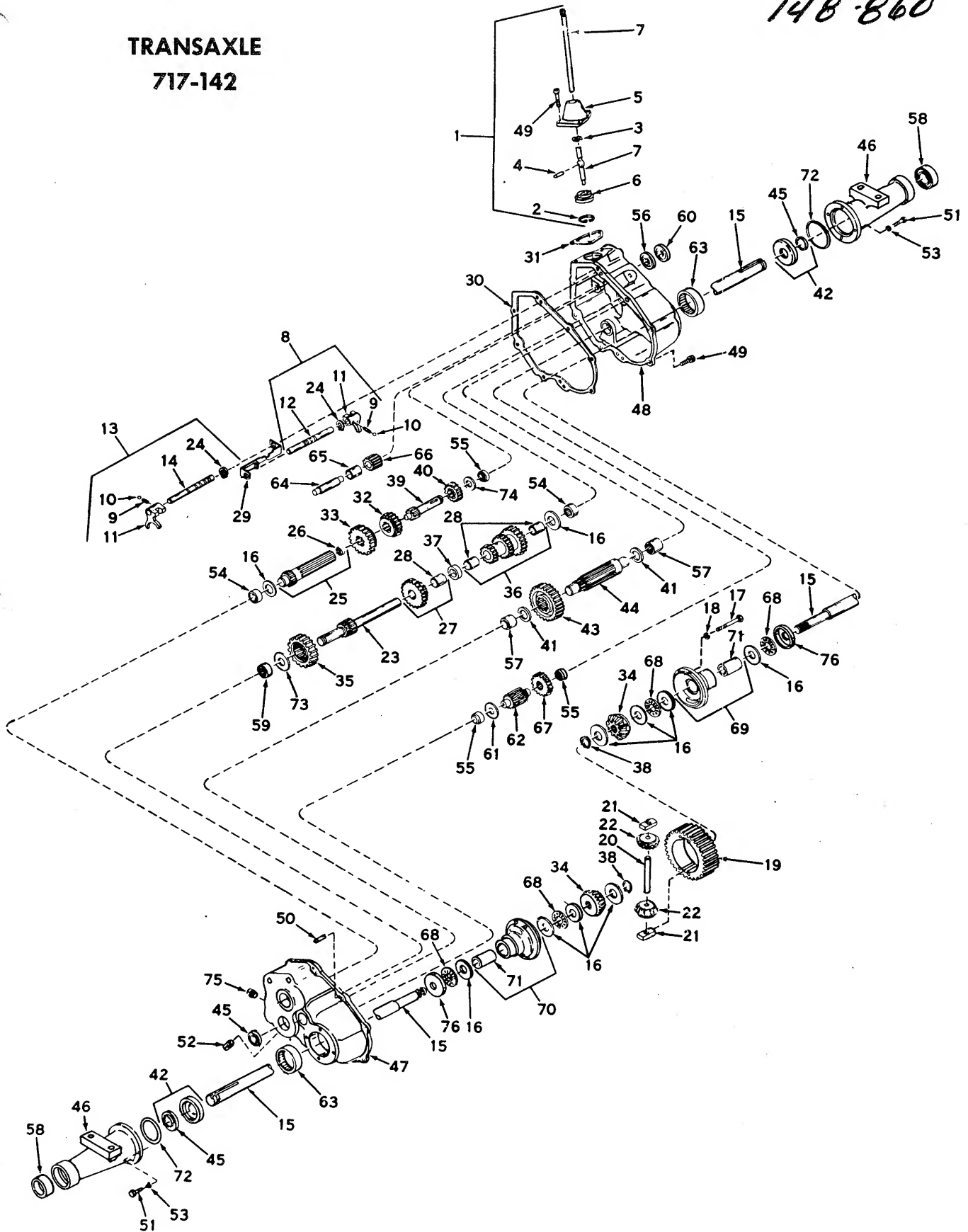
148-760  
148-860

**RIGHT ANGLE DRIVE MODEL NO. 717-143**

REF. NO.	PART NUMBER	DESCRIPTION
1	794037	Head Assy. Right hand (Incl. Nos. 2 thru 15)
2	770026	Housing, Right angle drive
3	778046	Gear, Miter
4	776088	Shaft, Input pinion
5	776060A	Shaft, Output
6	772034	Cover, Right hand
7	788028	Gasket, Cover
8	780034	Bearing, Ball
9	780024	Bearing, Ball
10	788019	Ring, Snap
11	788018	Ring, Snap
12	788029	Seal, Oil
13	788030	Gasket, Cap
14	792025	Screw, Rd. hd. self tap, 10-24 x 1/2
15	786029	Cap & Seal Assy., Retainer (Incl. Nos. 16 & 17)
16	788031	Seal, Oil
17	792026	Screw, Hex hd. 1/4-20 x 7/8

**TRANSAXLE  
717-142**

14B-760  
14B-860



# TRANSAXLE MODEL NO. 717-142

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
1	784050A	Lever, Housing Assy., Shift (Incl. Nos. 2 thru 7)	40	778024	Spur Gear, Input Shaft
2	792016	Ring, Snap	41	780052	Washer, Thrust
3	792001	Ring, Quad	42	788021	Seal & Retainer Assy., Oil (Incl. No. 45)
4	792002	Pin, Roll	43	778036	Gear, Output
5	784093	Housing, Shift Lever	44	776028	Pinion, Output
6	784094	Keeper, Shift Lever	45	788008	Seal, Oil
7	784051	Lever, Shift	46	782024	Housing, Axle
8	784054	Rod Assy., Shift (Incl. Nos. 9 thru 12 & 24)	47	772016A	Cover Assy., Transaxle (Incl. Nos. 54, 55, 57, 59 & 63)
9	792003	Spring	48	770012	Case Assy., Transaxle (Incl. Nos. 54, 55, 57 & 63)
10	792004	Ball, Steel	49	792007	Screw, Socket hd. cap, 1/4-20 x 3/4
11	784004	Fork, Shifter	50	786026	Pin, Dowel
12	784055	Rod, Shifter (3rd & 4th)	51	792028	Screw, Hex hd. 5/16-18 x 7/8
13	784056	Rod Assy., Shift (Incl. Nos. 9, 10, 11 & 14)	52	792019	Plug, Magnetic drain
14	784057	Rod, Shifter (low)	53	792029	Lockwasher, Split 5/16"
15	774124	Axle	54	780049	Bearing, Needle
16	780042	Washer, Thrust	55	780022	Bearing, Needle
17	792005	Screw, Hex hd. cap, 1/4-20 x 2-1/2	56	780024	Bearing, Ball
18	792006	Lockwasher, 1/4	57	780047	Bearing, Needle
19	778033	Gear, Ring	58	780050	Bearing, Ball
20	786019	Pin, Drive	59	780046	Bearing, Needle
21	786027	Block, Drive	60	788025	Seal, Oil
22	778065	Pinion, Bevel	61	780001	Washer
23	776029A	Shaft & Gear, Brake	62	776031	Shaft & Pinion
24	792017	Ring, Snap	63	780048	Bearing, Needle
25	776026	Shaft & Bearing Assy., Piston (Incl. No. 26)	64	776030	Shaft, Reverse Idler
26	780018	Bearing	65	786025	Spacer, Reverse Idler
27	778034	Gear Cluster Assy. (Incl. No. 28)	66	778016	Idler, Reverse
28	780053	Bushing	67	778038	Spur Gear (22 teeth)
29	784074	Stop, Shifter	68	780039	Bearing, Thrust
30	788023	Gasket, Case & Cover	69	774072	Carrier Assy., Differential (Incl. No. 71)
31	788022	Gasket, Shift Lever Housing	70	774071	Carrier Assy., Differential (Incl. No. 71)
32	778019	Gear, Shifting (3rd & 4th)	71	780041	Bushing
33	778020	Gear, Shifting (1st, 2nd & Rev.)	72	788024	"O" Ring
34	778066	Gear, Bevel	73	780007	Washer, Thrust
35	778037	Gear, Idler	74	780051	Washer, Thrust
36	778035	Gear Cluster Assy. (Incl. No. 28)	75	792010	Plug, Pipe
37	786024	Spacer	76	780075	Race, Thrust
38	792018	Ring, Snap			
39	776015A	Shaft, Input			

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